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### ORIGINAL COMMUNICATIONS.

*On the Nature and Treatment of Miasmatic Fevers.* By  
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Upon no subject within the range of medical science, has so much been written, or so many hypotheses been promulgated, as the nature of the agent which produces miasmatic fevers. While all agree that they have their origin in the exhalations from marshy lands, and decaying vegetable matter, no one has yet been able to isolate the subtle poison, or satisfactorily account for the phenomena of its action upon the system. A vacuum is thus left in the description of a train of diseases, whose unmanageable nature and frequent fatal terminations have gone far towards placing them among the *opprobria medicorum*. We should, therefore, give quiet heed to any hint which is at all calculated to throw light upon a subject which is as important as it is obscure.

In the *Journal des Connaissances Medico Chirurgicales*, for September, 1845, there is a well written article from the pen of M. Berard, styled, "What is the nature of the miasm producing Intermittent Fever?" The author there contends, that miasmatic fevers owe their origin to the introduction of hydrogen gas into the system. As the theory is novel and ingeniously sustained, I shall be pardoned for giving it here in the words of its author:

"The human mind is so constituted, that it seizes upon hypothesis the moment that truth fails it. We know it is said, the effect of nitrogen, of oxygen, and of carbonic acid upon the sys-

tem ; that is true, since these gasses all concur to form atmospheric air. We know, moreover, the effect of hydrogen gas upon the respiratory function; that it can be breathed without danger; and it is unnecessary to state the conviction, that, up to this moment, no one has ever attributed the phenomena of an attack of intermittent fever to the introduction of hydrogen gas into the air passages. M. Desroches says, however, that if hydrogen gas is not hurtful of itself, it becomes so by displacing oxygen. But what, let me ask, would be the effect, if a large portion of this gas, whether by absorption or otherwise, should gradually penetrate into the circulation, and suddenly displacing oxygen, combine with it? I defy any one to follow this proposition through all its developments without the history of the three stages of intermittent fever. Let us try :

“*First stage of the fever.* Retrocession of blood from the extremities to the centre; horripilation; chills; shivering. The hydrogen introduced into the circulation displaces oxygen, for which it has an affinity greater than for any other body. The combustion of carbon by oxygen in the lungs—the *principal source of animal heat*—gradually ceases, and general cold follows.

“*Second stage.* The slow and progressive development of heat; it flows, at first, from the great circulatory centres, where caloric is naturally preserved; all parts of the body are soon invaded by it, and the patient soon finds himself actually in a state of ignition. Hydrogen, once combined with oxygen, enters into a state of fermentation; this effect is in proportion to the quantity of heat that remains. Soon, however, the disengagement of caloric advances to a considerable point.

“*Third stage.* The skin, which was very hot, now becomes moist; the sweat is fully established, and it flows sometimes in an inexplicable abundance. Having arrived at the highest point of effervescence and combustion, the hydrogen and oxygen unite and resolve themselves into water.

“Here then, if I mistake not, are the cold, the hot, and the sweating stages of intermittent fever.

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“If we examine, now, this theory by the multitude of facts which are known to us, we shall be struck by their evidence. Thus, whether we consider marshy districts as immense reservoirs of hydrogen, and consequently as perpetual seats of infection; or, on the contrary, whether we look at the forests and woodlands where intermittent fever is unknown—*because, we say, hydrogen is there constantly absorbed by the vegetation*—either side agrees with our ideas.



“The state of the atmosphere and the seasons will furnish us with other proofs not less conclusive. I say further, that on inquiring into their influence upon this disease, and in seeking the part which they take in its development, we shall be forced to the conclusion, that intermittent fever is never found without the concurrence of hydrogen gas.

“It is not strictly true, however, that atmospheric vicissitudes are *alone* sufficient to engender intermittent fever. If that was so, the spring, which at Rome is, beyond contradiction, the most variable season, and most subject to violent changes of weather, would be, *par excellence*, the season for fevers; but so far from that, fevers are rare at that time; and when, by chance, you find a few cases of the past autumn continuing during winter, you see them, in the spring, going away of themselves without treatment; disappearing, according to a popular saying, at the appearance of the first cherries. That is to say, when the rapid advance of the young vegetation absorbs from the hurried vapors of the air every thing which contains hydrogen.

“There is one thing, however, about which there can be no doubt, namely, that during any season in Rome, the approach of a storm is sufficient to induce an attack of fever in a number of persons. I beg you to observe, that I say only the *approach* of a storm, for then the air is charged with electric fluid, and a sudden diminution in the pressure of the atmosphere sets free a large quantity of gas from the marshes; as soon, however, as it combines with the surrounding oxygen, and the rain begins to fall in torrents, all danger is over! Any one, who has ever been to Rome, has heard this saying from the mouth of almost every person, that heavy rains chase away the fever.

“A similar result follows long droughts,—two atmospheric conditions which doubtless seem opposed, but experience confirms the truth of the assertion. There are no cases of intermittent fever at Rome during the great summer heats, and that is explained by the rapid absorption of the slightest exhalations, and by the weight of the atmosphere which maintains the gas at the bottom of the water by suspending all fermentation.

“Summer, then, with its heats, without the possible production of hydrogen; winter, with its abundant rains, which dissipate this gas entirely; and spring, with its vicissitudes, hastening the vegetation which absorbs it, have no cases of intermittent fever. Autumn alone, which is attended by none of these conditions—which has neither excessive heats, abundant rains, nor vegetation—is devoted to all the severities of the epidemic. But how does this take place? The soil is burnt, and deprived of its products; the marshy lands are dry; and every thing, de-

prived of life, lies parched upon the surface of the earth. At this time a slight rain falls, a little humidity penetrates the soil; every thing then begins to ferment—the decomposition of animal and vegetable substances begins, and torrents of hydrogen gas, *which there is nothing to absorb*, are set free, and fill the air to prepare the cataracts of the season which are to follow.”

I have given a literal translation of enough of M. Berard's communication, to show upon what principles he bases the idea, that miasmatic fevers owe their origin to the introduction of hydrogen into the system. His theory, though somewhat fanciful, is, nevertheless, both plausible and captivating, and he urges it upon our attention with all the zeal of one wedded to a new hypothesis. We should not suffer ourselves, however, to be drawn from the truth by freaks of the imagination, but should ever keep in view the fact, that theory, no matter how ingenious and pleasing, is utterly worthless unless based upon well established laws. While, therefore, I do not desire to detract from the credit to which M. Berard is justly entitled, for his endeavors to discover the true nature of the cause producing miasmatic fevers, it will not be deemed amiss to present some valid objections to his theory. I object to it—

1st. Because it bases the cold stage of fever upon a statement, which is not in accordance with the views of more enlightened physiologists, namely, that animal heat is generated by the union of oxygen and carbon, *in the lungs only*. Liebig contends, that though the source of animal heat is attributable to the combustion of carbon, this combustion occurs not only in the lungs, but in the capillary system of the entire body, and he supports his hypothesis by a train of reasoning, founded upon experiment, which has never yet been overturned. Again, it has been pertinently asked, if the combustion of carbon takes place in the lungs, generating a heat in these organs which is subsequently carried through the whole frame, why is it that the parts within, and adjacent to the thorax, have not a higher temperature than other parts of the body? An inevitable conclusion, but one which is not upheld by actual experiment, since blood taken from the lower extremities is found to be of the same temperature as that drawn from the carotid artery.

2d. Because it is clearly deducible from his theory, that the cold and hot stages must always be in the same ratio, as regards their duration, instead of in an *inverse* ratio, as is known to be the case! For, if the cold of the first stage is produced by the introduction of hydrogen, the greater the quantity of gas present the longer the first stage; and if the second stage be caused by the combustion of hydrogen, the larger the amount of the *fuel* the longer will be the hot stage. All experience, how-



ever, proves that the longer the first stage of intermittent, the *shorter* the second, and vice versâ.

3d. The theory is not valid, because it fails to account for the fact, that in some cases of intermittent fever *there is no hot stage between the cold and the sweating stages*. We frequently meet with cases where reaction is slow in making its appearance; the patient remains for hours in a shivering condition, with the surface pale and cold, while the perspiration, cold and clammy, issues in large drops from every pore, constituting the *pernicious intermittent* of the French, and the congestive fever of other authors. Surely, in such a case, it can not be said, that the sweat is produced by the combustion of hydrogen with oxygen, for such combustion can not occur without the disengagement of a considerable quantity of caloric.

4th. I object to the theory, because it can not account for the subsequent paroxysms. Thus, a person inhales to-day a portion of hydrogen—it prevents the union in the lungs of a portion of oxygen with carbon, and general cold follows, which is the first stage of the fever. Soon the hydrogen enters into a state of combustion with the displaced oxygen, and heat is the result, which forms the second stage. Having reached the highest point of combustion, water is formed, which constitutes the third, or sweating stage. As soon as the perspiration begins, the patient feels relieved—in a little while, his appetite returns, and he is apparently free from disease. On the next day, however, or the day after, the same symptoms return, run the same course, and are again followed by an interval of apparent health. This state of things may exist for weeks or months; even continuing, according to M. Bérard himself, throughout the winter—a season during which all the hydrogen which is generated is dissipated by heavy rains. If hydrogen acts to produce intermittent fever, in the manner contended for by the author of the theory which we are considering, it must require a fresh inhalation of the gas just prior to the approach of each paroxysm, and it is extremely improbable in some cases, and impossible in others, that such inhalation takes place.

5th. I object to the theory, because experience proves that those persons who are most frequently exposed to an atmosphere charged with hydrogen gas, such as lecturers on chemistry and their pupils, æronauts and some others, are not more subject to attacks of intermittent fever than other persons.

6th. Because hydrogen gas, being lighter than all other bodies, will rise high above the surface of the earth, while it is proved that, in miasmatic regions, those who live in the lower stories of houses are much more subject to attacks of fever than those who occupy the higher apartments. Dr. Magill says, “The first

characteristic which strikes us in regard to malaria, is its *superior density*, when contrasted with atmospheric air. The fact of the greater exemption from disease of those who live in the upper stories of houses where miasmata abound, is well known to those who have paid any attention to the subject. Dr. Furguson (Phila. Journal, No. 13, p. 18,) states, that 'according to the official returns, during the last sickly season at Barbadoes, the proportion of those taken ill with fever in the lower apartments of the barracks exceeded that of the upper by one-third, throughout the whole course of the epidemic.'""

7th. M. Bérard's hypothesis does not account for the phenomena of *remittent* fever, a disease which undoubtedly is due to the influence of miasma. Thus, there is frequently no sweat throughout the course of remittent fever, the disease often running its course, *with the skin dry*, and having a favorable crisis in copious hemorrhage from the nose or pharynx, or by a discharge of thick, offensive matter from the bowels.

8th, and last. This theory cannot explain why there is a number of affections as constantly found in miasmatic regions as is intermittent fever, but which do not at all resemble this last in any respect—such are many forms of neuralgia, chlorosis, apoplexy, palsy, visceral obstructions, dysentery, diarrhœa, and some others.

From these remarks it will be perceived, that M. Bérard's theory, ingenious though it be, is opposed by objections so forcible, that we are left as much in the dark in regard to the nature of the miasm producing intermittent fever, as though his theory had never been published.

It is to be feared, too, that we are destined long to remain ignorant upon this important subject, and that marsh miasmata, like the subtle poison of contagion, will ever be known, as heretofore, only by its calamitous effects.

There is cause for gratulation, however, that although we cannot analyse the morbid agent, its effects upon the system have been so carefully studied as to lead to a rational mode of relieving them. To this poison of the subject I desire to turn my attention before bringing this communication to a close.

In the milder forms of *intermittent* fever it is a common and very successful practice, among the physicians of lower Virginia, to exhibit at the onset of the cold stage an emetic and cathartic combined. The act of vomiting tends to remove congestion of internal vessels and organs, and, by forcing the blood to flow with greater rapidity through its channels, to disturb in a great degree, the morbid action in the system; while the cathartic,

\* Lectures on Malaria, by A. T. Magill M. D. 1836—p. 6.



which usually moves the bowels towards the conclusion of the hot stage, promotes perspiration, and prepares the frame for the reception of medicines which are proper to prevent a second paroxysm. The emeto-cathartic is usually composed of calomel gr. x., tart. emet. gr. ij.

*Opium* is highly recommended by Drs. Shapter, Elliotson, and other writers, as a good remedy in the cold stage. According to my own experience, however, it is apt to hasten congestion of the liver and brain; to render the bowels still more costive, and thus to bring on a comatose state from which the patient seldom rallies. Especially do these effects follow the exhibition of this drug in cases of long duration of the cold stage, with great depression of the vital powers, constituting the *pernicious intermittent*.

*Blood-letting*, in this stage, I have seen of great service, and have no hesitation in subscribing to all the praises bestowed upon it by Dr. Mackintosh and other authors; with this restriction, however, that it shall be resorted to only in cases where the patient has not been much debilitated by previous disease.

The distressing nausea which is often attendant upon the first stage of intermittents, I have known promptly relieved by large draughts of the *cold* infusion of the *thoroughwort*, (*Eupatorium perfoliatum*.) This plant, indigenous to the more temperate parts of the United States, and easily procured by all who seek for it, has been too much neglected by the profession. Apart from its tonic and diaphoretic properties, which are undoubted, it possesses the peculiar power of allaying restlessness, and relieving the distressing aching of the limbs and joints so generally found in ague. It is a very common domestic remedy in this section of country, though not often prescribed by physicians; and many cases of simple intermittent are entirely cured by it, without a resort to any other remedy. From my observation of its action, I have no doubt but that it possesses a principle but little inferior to quinia in its anti-periodic powers.

During the hot stage, the patient should be kept moderately covered, and with a free circulation of air through the room. To allay the urgent thirst, ice finely powdered, and exhibited in teaspoonful doses every ten minutes, or oftener, will be found useful. The sweet spirits of nitre, and, according to Dr. Graves, the infusion of cascarilla acidulated with the elixir of vitriol, will also be beneficial. Should there be much fulness of the head, with burning of the eyes and injection of the conjunctiva, it will be proper to take a few ounces of blood from the arm.

I have frequently seen these symptoms, however, completely subdued by the following mixture :

R. Potass. Nitrat. ʒ ij.  
Tart. Emet. gr. ij.  
Spts. Nit. Dulc. f. ʒj.  
Aquæ fontis f. ʒiij.

M. S. a tablespoonful every hour.

As soon as the hot stage begins to decline, which is evinced by the appearance of slight moisture in the palms of the hands, we should commence with the exhibition of the *sulphate of quinine*. To wait until there is a complete cessation of febrile action, is to lose time and thereby hazard the recurrence of a second paroxysm. This remedy is undoubtedly of the first importance in the treatment of all miasmatic fevers, whether they be of an intermittent or remittent character. Most systematic writers upon this subject, however, direct quinine to be given in cases of *intermittent*, in doses, and at intervals, proportioned to the type of the disease; while in *remittent* there is scarcely one who does not condemn its use *in toto*. Thus, in the *quotidian*, we are told to administer two grains every hour until fifteen grains have been given; that in the *tertian*, one grain every hour or two, until the same quantity has been given, will prevent another paroxysm; while in the *quartan*, it may be exhibited in smaller doses at even longer intervals. (*Shapter, Brown, Watson, Eberle, Elliotson and others.*) As it is impossible, however, when called to a patient just seized with fever, to determine what type it will assume, and as it is frequently of vital importance to ward off a second paroxysm, this mode of administering quinine will often fail to accomplish the desired effect. My invariable practice is, as soon as there is the slightest diminution in the intensity of the hot stage, to exhibit quinine in doses of three or five grains every two hours, *until the patient complains of noises in his ears*. It has long been known, that cinchona and its preparations, when exhibited in considerable doses, will produce such noises in the ears as buzzing, ringing, roaring, &c., but I am not aware that it has heretofore been proposed to consider such effects as demonstrative of the entire subjection of the system to the influence of this remedy. It is to this point, then, as one of considerable importance in the management of miasmatic fevers, that I wish particularly to direct attention.

In the exhibition of *mercurials*, when it is desired to produce their specific effect upon the system, their use is discontinued upon the appearance of *ptyalism*, since it is well known that if benefit does not result when the mouth becomes sore, no good is to be expected from a continuance of the remedy. So, too,



in using *arsenical preparations*, we look for no further benefit from them after *œdema* and *gastric disturbance* have supervened; upon a principle similar to these, I give the sulphate of quinine in miasmatic fevers. As soon as ringing, buzzing, or roaring in the ears come on, I feel satisfied that the medicine has produced its strongest impression, and that its further exhibition would be worse than useless. *If the disease do not then yield, it must be combatted with some other remedy.* Sometimes I have seen only four grains produce this effect—often it will require forty grains, and in some rare cases, doses incredibly large, will fail to accomplish it. Cases of the last description, according to my observation, terminate fatally; *while, on the other hand, I have never lost a patient after quinine had affected the head, in the manner above indicated.*

I am well aware that many a case of miasmatic fever terminates favorably, though quinine has not been used to the extent here recommended; but I know, too, that many a case continues for weeks which might have been cured in forty-eight hours. The action of quinine upon the system is perfectly incompatible with that of malaria—therefore, if it require but a *single grain* to render harmless the poison, give it; if it require a *drachm*, do not hesitate to give it; and whether it will require a grain, a drachm, or any quantity greater or less than either of these, may be ascertained by reference to the effect produced upon the patient's head.

Since March, 1844, I have treated ninety cases of intermittent, and fifty-eight cases of remittent fever, in all of which quinine was exhibited until the head felt its effects. All recovered; and in no instance did harm result from this manner of giving the medicine. In a few cases, the patients were disposed to be restless, but a simple purgative, and one night's sleep were sufficient to carry off every unpleasant symptom. Nor in intermittent fever, have I ever seen a recurrence of the paroxysm; or in remittent the continuance of febrile action for more than eight hours, *after ringing, roaring, or buzzing in the ears supervened.* Instead, therefore, of recommending quinine in doses, and at intervals, according to the type of the fever, I would, in every instance, give it in large doses every hour, until the patient complains of peculiar sounds in his ears, as above indicated. And I as invariably consider my patients out of danger when *tinnitus aurium* comes on during the exhibition of quinine in miasmatic fevers, as I do when *ptyalism* supervenes after the exhibition of mercurials in any of the phlegmasia.

Dr. W. J. Tuck, of Memphis, has recently published in the *New Orleans Medical and Surgical Journal*, a very interesting paper upon the employment of large doses of quinine in bilious remit-

tent fever. As far as my experience goes, it is perfectly in accordance with that of Dr. Tuck. We do not often find, in this section of country, remittent fevers characterised by such malignant symptoms as are attendant upon them in the West and South-west, and, therefore, it is seldom necessary here to give quinine in such large doses. But, as far as the propriety of exhibiting it, *while the fever is on*, is concerned, I think there is no question. I have given it in ten grain doses, and frequently in doses of five grains every hour, with such marked benefit as to leave no doubt on my mind, that it is not only the best, but in some cases the only efficient treatment. There is, unfortunately, a great prejudice in the profession against what many call "heroic" doses of quinine, in the treatment of marsh fevers—a prejudice, which enlarged experience in the management of these affections can alone remove.

Since the time of the celebrated Radcliffe, the free use of *mercurials* in miasmatic fevers has been an almost universal practice. While, therefore, I am far from desiring to discard, altogether, a remedy whose beneficial use is attested by many distinguished men, I cannot but believe that in intermittent and remittent fevers, *uncomplicated with inflammation*, mercury is too often given to an unnecessary and injurious extent. In this section of country, a majority of physicians have an unconquerable dislike to giving quinine, except during complete apyrexia, and with such the practice of treating fevers with mercury, until ptyalism supervenes, is extremely common. This practice is unphilosophical, unless those who pursue it hold to the homœopathic motto, *similia similibus curantur*, for the morbid agent which engenders miasmatic fevers, and mercurials, produce the same pathological alteration of the blood—*they render its fibrine less abundant, and thus destroy its coagulability*. To give mercury, then, in idiopathic fever, is but to hasten the end to which the fever naturally tends.

I know that mercurials, unassisted by the other medicines, have the power of putting an end to the course of miasmatic fever, for I have experienced this in my own person; but the question arises, is not the patient left, after such a cure, (?) in a condition equally dangerous, as that produced by the fever itself? The practice may well be likened to the putting out the fire in a burning house by forcibly tearing the house in pieces; it is left as unfit for a tenant as if the flames had been permitted to destroy it unmolested. This view is fully confirmed by observation. The physicians of Northampton county, Virginia, annually attend a vast number of cases of miasmatic fever, and their adherence to the mercurial practice is extremely rigid. The country there is flat, and the sources of malaria abundant.



The fevers, however, though so prevalent that during some sickly seasons scarcely an inhabitant escapes an attack, are seldom complicated by visceral disorder. There are, consequently, few fatal cases. Great prevalence of fever, however,—no matter how mild in its character—during the autumnal months, is sure to be followed by great mortality during the following winter, from typhoid affections of the brain, lungs, and chylopoietic viscera. I attribute this to the almost exclusive use of mercurials in the management of the autumnal fevers. Such a practice tends to defibrinise the blood, to destroy in a great measure its power to coagulate, and thus to render it so fluid that it flows with difficulty through the capillary vessels. Hence, persons who have an attack of intermittent, or remittent fever, during the autumn, and take for its relief large quantities of mercury, find themselves much enfeebled, anæmic, and easily affected by even the slightest exposure. It is no wonder, then, that as the inclemencies of winter approach, such persons should be so little able to resist sudden congestion of the different organs, which rapidly tends to a fatal termination. In Northampton, the autumn of 1842 was characterised by unusual prevalence of fevers, though there was but little mortality attendant upon them. During the ensuing winter, however, there were considerably more than 100 deaths, the population of the county being about 7000. Persons were frequently destroyed in eight or ten hours, from violent congestion of the lungs or brain; and in those cases which lingered for a longer period, there was such a loss of vital power as to call for the exhibition of the most powerful stimulants. The most quickly fatal cases were those in which salivation had been produced during the previous autumn.

In this city, where we rely more upon quinine than mercurials in intermittent and remittent fevers, our winters are comparatively free from inflammations of a typhoid character. I do not intend, by the foregoing remarks, to be understood as condemning mercury altogether in fever. Given in the commencement of the disease, with a view to its cathartic properties; and, in fever complicated with inflammation, with a view to its specific impression, it is very serviceable. It is only against the routine practice of prescribing mercury in every case of miasmatic fever, whether it be simple or compound, mild or severe in its symptoms, that I contend. The physician who pursues a routine practice, and treats disease solely from its name, is certain to be an empiric.

There is a variety of miasmatic fever, occurring chiefly among children between two and seven years, which is characterised by shorter remissions, and more gastric irritation, than is usually found in the more idiopathic form of the disease, and which is sometimes extremely difficult to manage. The appetite is whim-

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sical, the tongue pointed and red at the edges; the eyes have a watery, heavy look; the bowels are frequently loose, the dejections being yellow, and sometimes brownish and offensive. There is a well marked remission every morning, though its duration is brief; and the patient is restless and irritable during the fever. The thirst is not very great, nor is nausea very common. There is more or less tympanitis, especially just prior to the exacerbation of fever. In the management of such cases, I have found quinine very offensive to the stomach, being rejected as soon as it is swallowed. This effect follows even if the taste of the medicine be entirely disguised, by giving it in the form of pill. When retained, however, it will often put a stop to the symptoms for a day or two, when they will almost invariably return. I have found the *ol. terebinthinæ* in combination with the *hydrargyrum cum cretâ* very serviceable in this form of fever. It is given thus:

R. Hydrarg. c. cretâ ʒj.

Ol. terebinth. f. ʒj.

Acaciæ gr. xxx

Aquæ f. ʒij.

M. S. A teaspoonful every two hours.

In some cases, where every remedy had failed, the application of a blister to the epigastrium produced a complete cure.

I have said nothing in regard to the management of complications occurring during the course of miasmatic fevers, because this communication has already been extended to too great a length. I cannot conclude, however, before urging upon members of the profession, whose experience is great, to give to the medical world their views upon the management of this class of diseases. It is a field which, though frequently travelled over, has been examined minutely by only a few. Captivating theories have unfortunately usurped the place of practical observation and well founded facts. No medical man should pass through life without having profited by the lesson taught in the remark of the great Sydenham: "But how great soever others' endeavours have been, I always thought I lived in vain, unless I, being of the same employment, contribute something, how small soever, to the treasury of physic."

Norfolk, Va., Dec. 15, 1845.



Germantown, January 1, 1846.

DR. R. M. HUSTON:

Dear Sir:—If the enclosed is worthy of a place in the Examiner, as showing the results of country air in opposition to that of cities and hospitals, I shall be obliged to you if you will give it some obscure corner.

Very faithfully yours,

THOS. F. BETTON.

Cases of Amputation in Private Practice, from June, 1833, to January, 1846. By THOMAS F. BETTON, M. D., of Germantown, Pa.

No	Name.	Age	Sex.	Cause of Removal.	Where Removed.	Result.
1	F. G.	22	Male.	Fungus Hæmatodes.	Thigh.	Recovered.
2	W. H.	35	Male.	{ Compound fracture, } { caused by machinery }	Forearm.	Recovered.
3	A. W.	12	Male Black	Fungus Hæmatodes.	Thigh.	Recovered.
4	H. S.	50	Male.	{ Scrofulous disease } { of Ankle-joint. }	Leg.	Recovered.
5	M. B.	13	Female.	{ Lacerated by a ma- } { chine for tearing flax. }	Arm.	Recovered.
6	E. S.	32	Female.	{ Scrofulous disease } { of Ankle-joint. }	Leg.	Recovered.
7	W. B.	50	Male.	Gangrene.	Thigh.	Died.
8	A. W.	18	Female.	Necrosis.	Leg.	Recovered.
9	R. L.	12	Male.	{ Gunshot wound of } { Hand. }	Forearm.	Recovered.
10	N. B.	33	Male.	{ Compound fracture } { from Rocks in a } { Quarry. }	Forearm.	Recovered.
11	J. H.	35	Male.	{ Compound fracture } { from premature ex- } { plosion of a blast. }	Forearm.	Recovered.
12	J. K.	42	Female.	{ Scrofulous disease } { of leg of many years. }	Thigh.	Recovered.
13	P. L.	30	Male.	{ Compound fracture } { by a Rock of $\frac{1}{2}$ ton } { weight falling on the } { foot. }	Leg.	Recovered.
14	J. C.	18	Male.	{ Hand torn in a cot- } { ton carding machine. }	Forearm.	Recovered.
15	B. M.	30	Male.	{ Mashed by a Loco- } { motive Engine. }	Both Legs.	Recovered.

## REMARKS.

The only case possessing much interest is No. 15, in which both legs were removed. The man had been thrown down on

the railroad by the locomotive, which passed over his legs diagonally, tearing them most horribly, and splintering the bones nearly to the knee-joint. He received, in addition, a severe concussion of the brain; and at the time of the operation was totally unconscious of everything around him—nor did he, for a week subsequently, know that his limbs had been injured. He was, fortunately, a man of strictly temperate habits, which, added to a good constitution, no doubt secured his recovery. A recovery from amputation of both legs, for a recent accident, especially so severe as that produced by a locomotive, is, I believe, uncommon.

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*On the Treatment of Bilious Remitting Fever.* By ABRAHAM LIVEZEY, A. M., M. D., of Lumberville, Bucks County, Pennsylvania. Communicated in a letter to the Editor.

During the past summer a bilious remittent fever raged in many parts of New Jersey, especially in Hunterdon county, about Ringoes, Head Quarters, Mount Airy, &c., where it proved alarmingly fatal—30 dying of the first 80 cases. These were treated after the old method of managing febrile diseases, by a “mixed, sedative and perturbing treatment.” Purgatives, frequently given; small doses of calomel, variously combined, throughout the disease; cold water prohibited under false apprehensions; general depletion resorted to, to the entire exclusion of cups. This is the synopsis of the mode of treatment practised at the forementioned places, as obtained from one of the physicians (ætat. 80) residing in the vicinity of those places, and who met me in my first case, after the epidemic had extended within the limits of my practice.

This case, a young, robust farmer, had the full benefit of the old, or rather of Prof. Eberle’s practice, viz.: cal., antim., ipecac. and nitre, variously combined, and in small doses, till the case terminated fatally at the close of the third week.

After his death, several of the same family, and many in the vicinity afflicted in like manner, were solely entrusted to my care, and all successfully treated by bearing in mind the pathology of the gastro-enteric mucous membrane, and pursuing the “milder, more soothing, and more philosophical treatment,” as recommended by Prof. Dunglison in his *Practice of Medicine*, and inculcated in his lectures at the Alms-house.

High temperature and vascular action were allayed by sponging the surface with vinegar and water, and cold water freely allowed internally; the irritated and inflamed gastro-enteric



mucous membrane was soothed by mucilaginous drinks; hyperæmia of any organ was promptly met by cups, after which, if tenderness of the bowels upon pressure persisted, blisters were applied. The bowels were daily unloaded by means of a small quantity of ol. ricini, aided by soothing or stimulating enemata, as the case required. And by these means I have had the pleasure of restoring to perfect health 19 cases in New Jersey, and 12 on this side of the Delaware, being all the cases that I have had under my care.

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*Report on Vaccination.* By HENRY T. CHILD, M. D. Communicated for the Examiner.

To the Board of Commissioners of the Northern Liberties.

*Gentlemen,*—Since entering upon the duties of Vaccine Physician for the Northern District of the Northern Liberties, on the 20th of Eighth month (August) last, I have vaccinated nine hundred and fifty persons.

Of these, five hundred and seventy-five had not been previously vaccinated, and three hundred and seventy-five were revaccinations, chiefly adults.

Of the five hundred and seventy-five first vaccinations, five hundred and thirty-seven were successful, and thirty-eight cases failed—being a failure of about 7 per cent. Of the successful cases, two hundred and thirty-eight were males, and two hundred and ninety-nine were females.

Of the three hundred and seventy-five revaccinations, two hundred and thirty-five were successful, and one hundred and forty failed—being a failure of about 37 per cent. Of the successful cases, sixty-nine were males, and one hundred and fifty-six were females.

The whole number of successful cases is seven hundred and seventy-two.

Of these, 161 were under one year of age.

“	110	“	between one and two years.
“	165	“	between two and five years.
“	98	“	between five and ten years.
“	125	“	between ten and twenty years.
“	113	“	over twenty years of age.

Previous to the existence of the epidemic small-pox in our midst, the failures among the first vaccinations were about ten per cent., during the past month not more than two per cent., and of fifty cases revaccinated previous to the existence of the

epidemic, only three took the disease satisfactorily; and I then felt disposed to condemn the practice as useless; but at present the number of successful revaccinations, as shown above, is so great, as to leave no doubt of the propriety of the measure, and to confirm the view that revaccination ought to be resorted to by all, when the small-pox rages as an epidemic, as it now does, in our city. As the susceptibility to the infection is greatly increased by such an epidemic influence, under existing circumstances, the only probable means of arresting the prevalence of this loathsome disease is, for the whole community to be revaccinated, which is the only safe test of the protection of the system.

All of which is respectfully submitted.

HENRY T. CHILD, M. D.

Vaccine Physician, N. D. N. L.

*Northern Liberties*, First month 1st, 1846.

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## BIBLIOGRAPHICAL NOTICES.

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*A Treatise on the Formation, Constituents, and Extraction of the Urinary Calculus; being the Essay for which the Jacksonian Prize for the year 1833 was awarded by the Royal College of Surgeons in London.* By JOHN GREEN CROSSE, M. D., F. R. S., Senior Surgeon to the Norfolk and Norwich Hospital, Lecturer on Clinical Surgery, Member of the Royal College of Surgeons, and Fellow of the Royal Medical and Chirurgical Society of London, &c. &c. 1 vol. 4to. pp. 231. London: John Churchill. 1841.

This work of Mr. Crosse has not yet been republished in this country, though, from the essentially practical nature of the subject of which it treats, avoiding all theoretical speculations, we trust that an American edition may soon be laid before the profession.

The work is divided into twelve chapters, and contains a very clear and concise account of the causes, composition, and growth of calculi in the kidneys, ureters, bladder, prostate gland and



urethra; the mode of sounding for stone, the removal of it when found to exist, and the after treatment—the whole occupying ninety-five pages. We have, then, twenty-nine plates, showing calculi after their removal from the bladder, and also in the various situations in which they are found in the body, together with engravings of the different instruments used in their extraction.

The volume also has an appendix of 22 cases of "*lithocystotomy*," and 704 cases, occurring chiefly in the Norfolk and Norwich Hospital, with their results; together with an alphabetical catalogue of the express treatises upon gravel, stone, and lithotomy, published in different ages and countries, and of essays or notices referring to those subjects in many periodical works, occupying sixty-five pages.

Dyspepsia is stated by Dr. Crosse to be the principal constitutional cause of calculus, combined with want of exercise, variable climate, peculiar diathesis, or some local disease in the urinary apparatus; the use of spirituous liquors or acids, which quickly cause an appearance of lithic acid, is also considered a powerful predisposing cause of this disease; alkalies act also in the same way, by creating alkaline deposits.

The sudden vicissitudes in temperature, so frequent in the temperate zone, by throwing suddenly a much greater degree of exercise on the functions of the kidneys, while the same effect is not produced either in hot climates, or in the very cold ones, is also considered a very strong exciting cause of the formation of calculi.

The local causes are blows upon the loins, injuring the kidneys, or any cause which may prevent the free excretion of urine, as enlarged prostate, strictures, &c., which act not only by the inflammation excited, but in the last mentioned cases by preventing the passage of small stones, that might have been readily voided under other circumstances.

Hernia of the bladder, sacculi formed by the mucous membrane passing between the muscular coat, and forming pouches for the lodgement of the urine, by causing inflammation of this organ also predisposes to this affection, though their existence is by no means so frequent as the other causes which are mentioned.

Extraneous substances in the bladder are also mentioned as forming nuclei for stone ; a fact which is well known to any one at all acquainted with this subject.

On the subject of the chemical composition of calculi, the author insists upon the importance of paying great attention to the nuclei, as the analysis bears so directly upon the prevention of the disease. Of 100 cases of calculi, passed per urethram, 72 were found to consist of lithic acid, or lithate of ammonia, and 14 of the oxalate of lime.

These last mentioned calculi grow much more slowly than those composed of the phosphates ; but all calculi, as a general rule, continue to increase as long as they remain in the bladder ; so that, by comparing the size of a calculus, on sounding, with the length of time it has been forming, as indicated by the symptoms, some idea may be formed of its density and composition. This, however, must be very vague, and it requires long experience on the part of the surgeon to be able to pronounce, with any certainty, on the size and composition of a stone ; and more information is derived from the *tactus eruditus* in sounding, than from anything else.

The author does not think that calculi are often adherent to the bladder ; they may be fixed by extending into the ureters, or urethra, or grasped by the muscular fibres of the bladder, or contained partially in a sacculus ; but, except by a layer of lymph soft enough to be easily broken through, his large experience has brought him *no instance whatever* of a calculus actually adherent to the coats of the bladder,—a very important point to remember, particularly with regard to the operation for lithotripsy.

With regard to calculi in the kidneys, less danger arises from large than small ones, as, in the first case, the organ may become atrophied, and give rise to comparatively little inconvenience, unless both kidneys are involved, when, of course, the case must terminate fatally in a few days ; but a smaller calculus, suddenly blocking up the ureter, may cause fatal suppression of urine, in case the organ of the other side should have been previously incapacitated from disease, or by inducing an attack of acute inflammation in one kidney, which may involve its fellow. Calculi fixed in the commencement of the urethra may grow to



a considerable size, occupying the prostatic portion of the urethra, and extending upwards into the bladder. The presence of a stone here is always attended with great suffering, and usually accompanied with a constant stillicidium.

The urine not remaining in the bladder, this organ at length becomes so contracted that there may not be room enough in the viscus to receive the end of the sound. It is highly important to be aware of this state of things; and much light may be thrown on the case by an examination per anum, and by the stone being felt by the sound before it has passed deep enough to have entered the bladder, in addition to the ordinary signs of calculus.

The plan proposed by some of removing the calculus, when in this situation, by an incision just within the sphincter ani, is not recommended by the author; but he prefers the usual lateral incision through the perineum, or when the staff cannot be introduced into the bladder, cutting upon the *gripe*, by which the danger of a recto-vesical fistula is prevented. Under these circumstances, we are cautioned not to be led into error by mistaking a small stone, which can be touched by the sound in all directions, for a large one; and the staff should be introduced on the pubic side of the stone, and not posteriorly, for fear of wounding the rectum. Cases are mentioned in which a stone, not extending into the bladder, remained stationary for years, with little inconvenience, though, when complicated with stricture especially, the very reverse is often the case.

Large calculi, occupying the membranous part of the urethra, occasionally cause suppuration, and a discharge through the perineum, without any operation, or they may descend into the scrotum, and occasionally increase to an immense size, by the opening through which they passed remaining open, so that the urine gets access to them.

Our attention is drawn to those calculi which have passed down from the kidneys, and lodged in the prostatic portion of the urethra, and the true prostatic calculi, which are formed in the ducts of this gland, and are uniformly composed of phosphate of lime. These last give rise to none of the characteristic symptoms of stone, unless they project at the orifices of the prostatic ducts, or escape into the urethra, or when the concretion is large, or

numerous small calculi, collected into a cyst, press upon the urethra.

Stricture, or any other disease causing inflammation of the prostatic portion of the urethra, and interrupting the free exit of the excretion of the prostatic fluid, are considered the causes predisposing to the formation of calculi in this situation. Another mode in which concretions are formed is also noticed, usually occurring in old persons—where we have hypertrophy of the prostate, and a diseased condition of the bladder—and that is, deposits of phosphate of lime in the varicose veins around the neck of the bladder, from the size of a pin's head to that of a kidney bean. These deposits have no connection whatever with urinary concretions, but are a morbid growth from the outer coats of the veins, to which they always adhere when small, and are covered by a membrane, which is the extended inner coat of the vessel.

The symptoms of stone in the bladder are passed over; but we have some valuable remarks on the pathological changes produced in this organ by their presence.

We next come to the operation of sounding for a stone, than which, as too truly remarked by our author, "there are few operations more abused and less skilfully practised." There are many morbid conditions of the bladder, giving rise to symptoms of stone, and, by the persevering efforts of the surgeon to find what may not exist, cystitis and death may be produced. This is especially the case when tumours exist in the bladder; and the symptoms here resemble very much those of stone. The bladder is one of the seats of polypi, of a benign nature, even in children; and the surgeon, under these circumstances, is very liable to be led into error. The immense importance of sounding is insisted upon, and the frequent cases of this kind, in which cystotomy has been performed, even by the most experienced surgeons, are mentioned.

Vesical auscultation is also regarded by our author as a valuable adjuvant in doubtful cases.

We next have a chapter on removing small stones from the bladder by the urethro-vesical forceps of Weiss, and many important directions for the performance of this operation, which may often save the patient from the hazard of lithotomy.



On the important subject of lithotripsy Dr. Crosse says but little, owing, as he remarks, to his want of experience on this subject, and most truly remarks, that so much delicacy and tact are required for the safe employment of instruments on the living subject, that they are scarcely employed by any, save those who dedicate their time and attention almost exclusively to the undertaking.

Since this work was written, however, the repeated and brilliant success met with in this department of surgery has been so great, that we may reasonably hope, before long, to see the time when lithotomy, in the *adult*, will be the exception to the general rule; but the great error has been committed of regarding lithotripsy as an easy operation, and one requiring but little study, and hence the small degree of favour with which this mode of removing calculi has been regarded by many who have undertaken its performance, without possessing qualifications necessary to ensure success.

In speaking of the removal of the stone from the bladder by the cutting operation, the author proposes the term Litho-cystotomy in preference to lithotomy. The operation above the pubes, and by the rectum, are justly regarded as applicable to but few cases, and the directions given have reference entirely to the lateral operation through the perineum, in two ways; first, with the curved, and secondly, with the straight staff. The importance of forming some idea of the size of the stone to be removed is insisted upon, not so much from its great size being an obstacle—as the author mentions a case in which a stone weighing fourteen ounces was successfully removed, and the patient lived five years afterwards—but because this dangerous operation may be, and has been resorted to, where the calculus was so small that it might have been readily removed by the urethro-vesical forceps; and our author states, that he has repeatedly known the stone so small as to pass through the wound with the urine, as soon as the bladder was opened, and escape detection; and sometimes, where the operation has been prolonged in a tedious search for the stone, chiefly owing to its small size, it has proved to be such as might readily have been brought away by the urethro-vesical forceps.

The directions for the operation are such as are usually given,

until the third stage of cutting into the bladder with the scalpel—not with the gorget, as usually practised in this city. Dr. Crosse prefers a staff, with a deep semi-circular groove upon the whole of its convex and the adjoining portion of its straight part; and, after opening the membranous part of the urethra, the knife is passed on in the groove of the staff, supported by the forefinger of the left hand, and the incision can be enlarged as far as necessary in the withdrawal of the knife. This stage of the operation, he remarks, he has “found, from ample experience, very difficult to execute upon the *curved staff*, owing to its being held obliquely, to present the groove favourably, and its receding from you in two directions.”

The straight staff is calculated to obviate many of these difficulties, and possesses strong recommendations, in our author's opinion, for a preference; and, as it is a novelty to most operators in this country, where the gorget is usually used, we extract the whole account. It should be premised that the staff is to have two handles, one at right angles to the other.

“After executing the first and second stages, as already described, the second handle is turned towards the right side, in order that the groove of the staff may be presented in the opposite direction; in doing this, you find in the straight staff the great advantage of the instrument moving round its axis, and its position in the urethra consequently not altering from the median line, which I deem a very essential point. The straight staff, in passing through the membranous part of the urethra, lifts it up from the rectum, pressing against the pubic or superior surface of the passage, thus affording great protection against wounding the rectum: the reverse happens with the curved staff, its convexity pressing towards the rectum, and rendering it not easy always to avoid wounding it. The greatest gain from the straight staff is in the facility given to the third stage of cutting into the bladder, by the instrument answering to the median line at the same time that the groove is presented in the most favourable position, and by your having to cut in a straight direction—so that, getting down to the staff, you find this third stage converted into one plain continued incision, effected by carrying on the knife in the groove, as you would carry it along a common director, till satisfied that you have gone as deep as required, passing the prostate, and just entering the bladder; you then enlarge the incision in withdrawing the scalpel.”



The cutting gorget is rejected *in toto*, as, in the hands of the generality of operators, it is found to bring great peril, where any error occurs, such as its passing between the bladder and rectum, or between the former and the pubes, instead of entering the bladder, or, after entering it, transfixing its coats from within outwards; all of which accidents he has known to happen, and all of which are necessarily fatal in the adult, except where the injury is towards the rectum.

In using the curved staff, the blunt-beaked gorget is recommended, after completing the section into the bladder, and then the staff is to be withdrawn, and the gorget is used as a conductor, and also as a dilator of the neck of the bladder. When the straight staff is used, it is withdrawn before introducing the finger into the wound.

The extraction of the stone is justly regarded as the part of the operation requiring the most feeling and judgment, and the greatest care is to be taken not to use too much force, for fear of inducing inflammation and sloughing. Pouteau's directions are quoted, inculcating the immense importance of *slowness*, *gentleness*, and *patience*, by which very large stones can be extracted without danger; and if much resistance is met with, the wound is to be enlarged to the requisite extent, by which we are sure to have a safe, though, perhaps, not a rapid and brilliant operation. The much greater facility with which the neck of the bladder dilates in children than in adults is also to be borne in mind.

The after treatment is such as is usually recommended; and we then have a chapter on hemorrhage after the operation—one of the most embarrassing accidents to the surgeon, and one attended with great danger to the patient, both from its immediate and remote effects. In old persons we have venous hemorrhage, occasionally to an alarming, and sometimes fatal extent, from the varicose veins around the bladder and prostate gland, which are divided in the operation. The plan adopted by Dr. Physick, of introducing a catheter into the bladder, and inserting a strip of lint between the edges of the wound, will here be found the most effectual treatment.

The arteries entering the corpus spongiosum at the bulb are often divided, and give rise to severe hemorrhage; the wounding

of the corpus spongiosum itself seldom furnishes an alarming bleeding; but when the arterial branch, before entering the bulb, is cut, we may expect very different results. When this occurs, and the vessel can be secured at the place of division, it is of course to be practised, or, if we cannot secure it at this point, we may control it by keeping up pressure on the internal pudic, or, by securing this vessel, on the ramus of the ischium. When plugging the wound is necessary, in consequence of not being able to secure the vessel in any other way, the operator may, with good reason, apprehend some untoward symptoms. The division of the pudic artery itself, a rare occurrence by the way, of course requires the ligature, which can be applied by a small curved needle in the forceps. If hemorrhage does not occur within a few hours, we seldom have any cause for anxiety from this source, although, among the old writers on lithotomy, it was by no means uncommon to have secondary bleeding coming on a week or two after the operation, proving the violence done to be so great as to have caused sloughing.

Of the plates we say nothing—because they must be seen to be properly understood—except to speak of one, in which there was such immense enlargement of the ureter, following stricture and four small calculi in the bladder, that it looked like an intestine. A similar case came under our own notice some years ago, where the ureter was mistaken for the extremity of the colon and tied, under the impression that it was the gut, before the mistake was discovered. In this case an impassable stricture had existed for some years, and the patient suffered from an incurable fistula in perineo.

From the table of 704 cases of lithocystotomy, performed at the Norwich and Norfolk Hospital, we find the average whole number of fatal cases to be 1 in  $7\frac{5}{9}\frac{3}{3}$ ; and of these, 669 were males, in whom the proportion was 1 in  $7\frac{3}{9}\frac{2}{1}$ ; and of the remaining 35, who were females, but two died, being 1 in  $17\frac{1}{2}$ ; 262 were children under 10 years of age, in whom the proportion of fatal cases was 1 in  $14\frac{1}{9}\frac{5}{9}$ ; showing the truth of the opinion, that this operation is far more dangerous in adults.

The catalogue of express treatises upon stone, &c., which concludes the work before us, is very large, and will afford



valuable assistance to any who may wish to review the whole history of this interesting department of surgery.

In the foregoing remarks and extracts, it has been our aim rather to give a condensed view of the information to be derived from the work before us, on a subject that is now attracting even more attention than usual, in consequence of the great improvements introduced within a few years, than a review; and we again repeat, that we hope, before long, to see the entire work laid before our readers in an American edition.

J. W.

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*Outlines of the Nerves, with short descriptions. Designed for the use of Medical Students.* By JOHN NEILL, M. D., Demonstrator of Anatomy in the University of Pennsylvania; Physician to Wills' Hospital; Lecturer on Anatomy, etc. etc. etc. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1845.

Our favorable anticipations have been more than realized in the appearance of this accompaniment to "Outlines of the Arteries," by the same author, which has already become so favorably known. The great and *distinctive* merit in that work, of placing the name upon the vessels and their branches, has also been observed in this; and the student is enabled to see, at a single glance, both the main trunk and the filaments arising from it. This advantage is particularly conspicuous in plate 3d, where the fifth pair and its various branches are beautifully, and, what is better, *clearly* displayed. The difficulty of following a demonstration, so often complained of by students, can, we think, no longer exist with such a guide as this.

The author does not pretend to portray all the minutiae of the discoveries of the nervous system; his great aim is to render clear what is already known, and to give to students an easy method of acquiring it. To accomplish this, the plan of demonstration already mentioned has been adopted, and the plates have been altered from others, so as to suit the terms and descriptions of the standard works of the day, thus rendering it a suitable accompaniment to almost any text book.

The drawings are faithfully and beautifully done, and we feel sure that it will obtain a large share of the approbation it so deservedly merits. We understand that a similar work, on the Veins and Lymphatics, by the same author, will shortly appear, which will render the series complete. The present work is neatly and substantially gotten up, and reflects great credit on all concerned.

F. G. S.

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*Elements of Pathological Anatomy; illustrated by colored engravings, and two hundred and fifty wood cuts.* By SAMUEL D. GROSS, M. D., Professor of Surgery in the Medical Institute of Louisville; late Professor of Pathological Anatomy in the Medical Department of the Cincinnati College; Surgeon to the Louisville Marine Hospital, etc. etc. Second Edition, thoroughly revised, and greatly enlarged. Royal 8vo. pp. 822. Ed. Barrington & Geo. D. Haswell. Philadelphia, 1845.

Since the days of Morgagni, the importance of pathological anatomy as a department of medical science has been acknowledged by every one. It is true that, without a proper observance of the phenomena of disease as manifested during life, the mere inspection of the lesions discoverable after death, would subserve no useful purpose. To become good therapeutists, we must first learn healthy anatomy, in connexion with physiology; we shall then be prepared to engage in the study of Semeiology, and its relations to morbid changes of structure. Notwithstanding the occurrence of disease and even of death, in numerous instances, without any change of structure appreciable during life or discoverable after death, it is not unreasonable to presume that material modifications do exist, and that the improvements going on in our science will hereafter enable us to detect them under circumstances in which they now elude our observation. Certain it is, that within a few years past, numerous and most important discoveries have been made in this department by the aid of the microscope, both as it regards the natural structure and offices of the solid and fluid parts of the body, and the altered conditions which occur in disease, and we may fairly presume that much more will yet be attained. The study and more general employment, too, of auscultation and per-



cussion, in discovering the physical signs of disease, leads to the detection of structural changes in various organs of the body during life, under circumstances where no such alterations would formerly have been suspected. By these several means, aided by the improved state of chemistry, valuable discoveries have of late years been made in this branch of our science. Many of these, however, exist as isolated observations, scattered over the pages of the periodicals of the day. The task of collecting and arranging them, so as to present all that is known, under appropriate heads, and in a manner accessible to every one, is one of great labour but of the utmost utility. The work of Dr. Gross originally appeared in the year 1839; and that a second edition should now be called for, considering the size and cost of the work, and on a subject which comparatively few practitioners are sufficiently industrious and painstaking to investigate, is certainly flattering to him.

The work is divided into two parts: 1st. General principles of Pathological Anatomy. 2d. Special Pathological Anatomy. In the first of these divisions the alterations and products of morbid action are considered, as they occur in all the tissues, as *inflammation, effusion of serum, lymphization, suppuration, hæmorrhage, softening, gangrene, ulceration, &c. &c.* In the second part, the alterations of structure and condition, as observed in the several parts or systems of the body, are described, as *the blood, cellular texture, adipous texture, muscular system, arteries, veins, &c. &c.*

Although we do not find, even in this later edition, all the valuable observations supplied by recent chemical and microscopical investigations, sufficient is given to afford to the inquirer a very good general knowledge of the present state of the science. We mean no disparagement by this remark. The labours of physiologists, with the aid of chemistry and the microscope, are so unremitting and so prolific, that a day scarcely elapses without some useful discovery; and it would be no easy task to collect and embody the whole, scattered as they are, up to the time of publication. Nor has the author manifested any want of diligence, or a desire to avoid labour in the preparation of the present edition of his work. It "has been thoroughly revised, and an amount of new matter, equal to three hundred pages of the original, has been introduced. The number of illustrations has been increased from ninety-

seven to nearly two hundred and fifty. Of these, about one-third are original."

The mechanical execution of the book, including the illustrations, is good. Even the coloring of some of the plates, contrary to what we see in most American publications of the kind, is creditable.

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*A Popular Treatise on the Teeth; embracing a description of their structure, the diseases to which they are subject, and their treatment, both for the prevention and cure of those diseases; together with an account of the usual methods of inserting Artificial Teeth.* By ROBERT ARTHUR, Doctor in Dental Surgery, &c. 12mo. pp. 187. E. Ferrett & Co. New York, 1845.

We have not discovered in this work anything particularly new or different from what is contained in the more elaborate treatises on Dental Surgery; nevertheless, it appears to be a very good manual on the subject. It is written in a popular style, without the use of many technical terms, and may be read with advantage by those who have not the time or disposition to study the larger works.



## THE MEDICAL EXAMINER.

PHILADELPHIA, FEB., 1846.

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### EPIDEMIC SMALL-POX.

We continue to hear of the prevalence of this disease in various parts of the country, and now that it is fairly enthroned, we suppose it will reign while subjects last and cold weather continues. In Philadelphia it is evidently on the decline. The number of deaths by it, reported by the Board of Health last week, was but eighteen, which is fifty per cent less than a few weeks back. In other respects our city is as healthy as usual at this season of the year; and notwithstanding the exaggerated reports which have gone abroad, the number of deaths from small-pox, considering how many persons have laboured under it who were not protected by vaccination, has really been very small out of so large a population.

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### NEW MEDICAL SCHOOLS.

A *Medical University* (!) for teaching how to steam and give *Lobelia* and *Number Six*, has recently been chartered by the State of Alabama, and a new Medical School at Memphis, by the State of Tennessee. We also learn there are applications pending before the Legislature of Pennsylvania for the establishment of two new ones in Philadelphia, and that one or two more are getting ready to apply! How many more are in embryo, here and elsewhere, we know not. If the people were as wise as *Æsop's* frogs, they would probably say, "this may be sport to you, gentlemen Professors, but it is death to us."

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### THE WEATHER.

The weather in Philadelphia the present winter, as it regards temperature, has thus far been pretty much like the Irishman's pig—"a streak of fat and a streak of lean." We have had three or four spells almost cold enough for a Siberian winter, with intervals that would not discredit the West Indies. At the present moment (January 26, 10 o'clock, P. M.) the mercury in Fahrenheit is at 40° in the open air, with a north eastern exposure, while the streets are covered with smoking ice, which descended a few days since, in the form of hail, rain and snow!

*Introductory Lectures.*

This is the season for the publication of the Introductory Lectures delivered at the Medical Schools throughout the country. Among the offerings of this kind, we notice the following on our table:

"An Introductory Lecture delivered before the Class of Institutes of Medicine, in Jefferson Medical College, November 3, 1845. By ROBLEY DUNGLISON, M. D. Published by the Class."

"Introductory Lecture to the course of General, Descriptive and Surgical Anatomy, in Jefferson Medical College. Delivered November 5, 1845. By JOSEPH PANCOAST, M. D. Published by the Class."

"Sources, Evils, and Correctives of Professional Discontent. An Introductory Lecture, delivered November 4, 1845. By JOHN P. HARRISON, M. D. Professor of Materia Medica and Therapeutics in the Medical College of Ohio."

"The Reciprocal Obligations of Professors and Pupils. An Introductory Lecture, delivered by THOMAS D. MITCHELL, M. D. Professor of Materia Medica and Therapeutics, and Lecturer on Obstetrics, in Transylvania University, November 3, 1845. Published by the Class."

"An Introductory Lecture, delivered by GUNNING S. BEDFORD, A. M., M. D., Professor of Midwifery and the Diseases of Women and Children, in the New York University. Session 1845-6. Published by the Class."

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*Catalogues and Annual Announcement.*

We have received the following Catalogues and Annual Announcement.

"Catalogue of the Officers and Students of Yale College, 1845-6." The number of Medical Students, the present Session, is 53.



“Catalogue of the Medical Institution of Geneva College, Session 1845-6.” Number of the Class, 178.

“Annual Announcement of the Philadelphia Medical Association, for the Session of 1846.” This is a private Association of highly competent gentlemen for giving instruction in the several branches of Medical Science during the summer months. The lectures commence early in April, and continue until the end of October, with the usual recess during summer.

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## RECORD OF MEDICAL SCIENCE.

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### *Report on the Progress of Anatomy and Physiology.*

By W. H. RANKING, M. D.

#### § VI.—*Nervous system.*

20. *Functions of the cerebrum and cerebellum.* Dr. Cowan has related two cases of encephaloid carcinoma of the brain, the details of which offer some points of considerable physiological interest. One case is peculiarly instructive, as showing the great amount of cerebral lesion which may exist without being accompanied with any disturbance of the intellectual faculties, and with but slight interruption to the functions of the nervous system generally. The case was chiefly characterized during life by the occurrence of paroxysms or severe pain in the head, which was at first limited to the left side, but eventually became general. These paroxysms were accompanied by severe pain in the right arm and right leg, during the continuance of which the right arm was relaxed and motionless, but regained its power when the pain subsided; this was the only appearance of paralysis noticed; as far as could be ascertained, the sensibility of the arm was not diminished, and the right leg did not participate in the temporary paralysis of motion. There was occasional disturbance of vision in the right eye; and tinnitus of the right ear was a constant symptom; it consisted of a whizzing pulsating noise. There was no appreciable mental disturbance, and the patient walked down stairs the day on which she died. On examining the brain, the greater portion of the medullary substance of the right hemisphere, as also a large portion of that of the left hemisphere, was found converted into a red pulpy mass, presenting all the characters of ordinary encephaloid carcinoma. The grey portion was perfectly healthy to all appearance,

which seems to support the favoured doctrine that it is the seat of the intellectual powers. Dr. Cowan suggests that the constant tinnitus may be explained by considering it to have been dependent on the pulsations of the diseased and softened middle lobe resting on the temporal bone, combined also with the morbidly increased sensibility of the parts.

The second case is still more interesting and instructive. It seems to prove very strikingly the truth of the now generally admitted opinion, that the chief function of the cerebellum is to produce a combined and harmonious action of the several muscles called into movement for the attainment of a given end, as in locomotion, &c. It also, as well as the last, illustrates the apparent dependence of the intellectual faculties on a healthy condition of the gray cerebral matter. On examining the brain in this case, there was found a mass, presenting the characters of encephaloid carcinoma, incorporated with the anterior extremity of the left lobe of the cerebellum, of which it seemed a prolongation; passing forward in inseparable connection with the pons, and following the emerging fibres of the corresponding crus cerebri, it terminated about an inch further (without penetrating the ventricle,) in the medullary substance of the middle lobe of the left hemisphere; the principal seat of the morbid change was in the commissural fibres which contribute to the formation of the pons. The medullary substance was alone diseased, the gray matter being distinct, and to all appearance healthy. The several nerves passing through the diseased mass were more or less vascular and soft, which would account for the various disturbances in function presented during life by the parts to which they were distributed, as deafness, &c.

The chief points in the symptoms of this disease to which attention need be directed in this notice are, that there was no paralysis of motion or sensation to the last, no convulsive movements, neither was one side of the body more distinctly implicated than the other, but the controlling, the co-ordinating power of the muscular system appeared abolished or nearly so; thus, in the early part of the affection, the patient staggered during walking, as if slightly intoxicated, and was unable to direct her progress in a straight line, she constantly deviating to the left; as the disease advanced, the irregularity in the voluntary movements increased, and gradually affected the arms as well as the legs. She required to be held and directed in every act, supported at times by two assistants, and pushed forward by a third to enable her to move about the room; and if by accident she fell when attempting any effort alone, she was quite unable to rise or to assist herself. She was perfectly sensible throughout, and the only change in her mental condition was a kind of restless excitement, with a certain indescribable feeling of distress, a childishness of thought with great feebleness of memory and attention; often intervals of unexpected and remarkable revival of natural feelings and mental powers would occur, the cause of which is quite inexplicable.

A curious case is related by M. Blaquiére, in which a ball discharged from a pistol struck a child, aged four years and a half, on one



temple, traversed the brain, and passed out at the other temple; the child survived until the 29th day after the accident. When seen by M. Blaqui re upon the 20th, and several subsequent days, he was found sitting up in bed, amusing himself with his play-things, and eagerly calling for more food than was allowed him; he was lively and cheerful, except during the dressing of the wounds, manifesting the possession of all his mental faculties. After death it was found that the cranium had been perforated about an inch and a half above the external orbital process on each side; the anterior part of both cerebral hemispheres had been traversed by the ball; in front of the canal occasioned by its passage, there was a layer of cerebral substance six or eight lines in thickness, the gray matter above the canal was untouched, the ventricles of the brain were also uninjured.

21. *Reflex function of the Brain.* In a paper read before the last meeting of the British Association at York, Dr. Laycock offered further evidence confirmatory of his opinion published four years ago, that the brain, although the organ of consciousness, was subject also to the laws of reflex action, and that in this respect it did not differ from the other ganglia of the nervous system. He was led to this opinion by the general principle that the ganglia within the cranium being a continuation of the spinal cord must necessarily be regulated as to their reaction or external agencies by laws identical with those governing the functions of the spinal ganglia, and their analogies in the lower animals; and on investigation he found that observations and arguments like those satisfactorily adduced in proof of the existence of the reflex functions of the spinal ganglia, might be brought forward in proof that the cerebral ganglia have similar endowments.

He considers that the cerebral nerves, but especially the optic, auditory, and olfactory, are incident excitator nerves; that impressions made on them will pass on to the central axis, thence be communicated to the motor nerves, and thus give rise to combined muscular acts, or irregular and spasmodic movements. Similar acts may also have a centric origin, the exciting cause being *within* the brain. These acts may likewise be shown to be instinctive. In these particulars there is an evident analogy with the reflex functions of the spinal cord. To prove this, we must apply the natural stimulus to these nerves; thus light must impinge on the optic nerve, sound on the auditory nerve; pricking or tearing will have no effect in proving their reflex influence. Dr. Laycock mentions hydrophobia as presenting a good illustration of these cerebral reflex movements. The acknowledged excito-motory phenomenon of hydrophobia may be induced, 1st. Through the sensual nerves of touch, as by the contact of water with the surface of the head, hands, chest, the lips and pharynx. 2d. By a current of air impinging on the face or chest. These causes act undoubtedly on the incident nerves of the cord, as mentioned by Dr. Marshall Hall. But 3d. A bright surface, as a mirror; 4th. The sight of water; 5th. The sound of water dropping; 6th. The idea of water, as when suggested to the patient that he shall drink;—all most indubitably induce excito-motor phenomena, as decided and distinct as the first and second causes.

Some of the spasmodic movements as well as being involuntary, have a conservative object in view, as shown in the attempts to remove water when presented, the expelling it from the lips with a violent spasmodic jerk, &c.

These are the chief physiological points contained in Dr. Laycock's admirable paper; the remaining part of it is somewhat too abstruse and metaphysical to admit of further notice here, but the whole is well worthy of attentive perusal.

22. *Animal electricity.* The highly interesting electro-physiological researches of Professor Matteucci of Pisa have recently excited considerable attention; the following are the chief facts established by his experiments: 1st, Muscle is a better conductor of electricity than nerve, and nerve conducts better than brain; the conducting power of muscle may be taken as four times greater than that of brain or nerve.

2d. In the muscles of living animals, as well as those recently killed, an electric current exists, which is directed from the interior of each muscle to its surface. The duration of this muscular current corresponds with that of contractility: in cold-blooded animals, therefore, it is greatest; in mammalia and birds it is very brief. Temperature has a considerable influence on the intensity of the current, a small amount of electricity, being developed in a cold medium, a larger one when the medium is moderately warm. Any circumstance which enfeeble the frogs (the animal experimented on) and derange their general nutrition, will diminish the power of the muscles to generate electricity, as they also impair the contractile force. The muscular current appears to be quite independent of the nervous system. It is uninfluenced by narcotic poisons in moderate doses, but is destroyed by large doses, such as kill the animal. The development of this muscular current seems evidently to depend on the chemical action constantly taking place as an effect of the changes accompanying nutrition; these organic changes, in short, give rise to an electric current, just as do the chemical changes, attending the mutual reaction of inorganic materials, such as the reaction between a plate of metal, and an acidulated fluid in the ordinary voltaic pile. That considerable chemical changes attend the process of nutrition in muscle, seems evident when we consider the constant supply and waste of material of which it is the seat, and the evolution of sensible heat which accompanies its contraction; in this way the generation of electricity can be readily accounted for; the muscular fibre represents the metal acted on in the arrangement of the voltaic apparatus, and the arterial blood corresponds to the acidulated fluid. The surface of the muscle, which is more or less tendinous, and therefore different in structure and in function from the interior, represents the second plate of metal used in the voltaic apparatus, which does not suffer chemical action, but which only serves to form the circuit. The direction of the muscular current, therefore from the interior to the surface of the muscle is just such as might be expected, supposing it to be due to a chemical action taking place in the interior of the muscle.



3d. Another result obtained by M. Matteucci is the proof of the existence in frogs of an electric current distinct from the muscular current; it proceeds from the feet to head, and is peculiar to the Batrachian reptiles.

4th. Some curious results were obtained by applying electricity in various ways upon nerves. Upon making some experiments on the sciatic nerves of rabbits, he found that upon *closing* the circuit of the *direct* electric current, or the current directed from the brain to the nerves, contractions in the muscles of the posterior limbs were produced whilst upon *opening* this circuit marked signs of pain, with contraction of the muscles of the back, and feeble contractions of the posterior limbs, were caused. Upon *closing* the circuit of the *inverse* current, or that directed from the nerves to the brain, signs of pain, contractions of the muscles of the back, and feeble ones of the posterior limbs, were produced; upon *opening* it, contractions of the posterior limbs were caused.

It will not be misplaced to notice here the marked analogy between the actions of the electrical organ of the torpedo and those of muscular fibre, which Matteucci's interesting experiments illustrate. Both are organized to act in a particular way; the one to develop electricity without any visible change in itself; the other to contract, with a demonstrable evolution of both heat and electricity. Both will manifest their peculiar phenomena by direct irritation, or by indirect irritation through the nerves. Both are brought under the control of the will by the nerve; the section of which paralyses the influence of the will over both, but does not destroy the peculiar power of either. In the electrical fish, irritation of the electrical lobe of the brain is capable of exciting a discharge of the organ, just as irritation of a segment of the spinal cord causes contraction of the muscles supplied by it. A current of electricity transmitted through the electrical organ or its nerves, causes discharge; and a similar current sent through a muscle of its nerves, causes it to contract. All the circumstances which modify the nutrition of muscle, will similarly affect that of the electrical organ.

23. *Nerves of the eighth pair.* Numerous observations have been lately made as to the respective functions of the glossopharyngeal, pneumogastric, and accessory nerves, by Stilling, Van Kempen, Bernard, and Hein. Their conclusions, on the whole, agree pretty closely, though they differ on some points, both with each other, and with previous experimenters. The present state of our knowledge (incomplete though it is) regarding the probable functions of these nerves, deducible from recent and previous facts, is thus stated by Mr. Paget.

1st. The glossopharyngeal is chiefly the nerve of the sense of taste, and in a less degree, a nerve of common sensation.

2d. The glossopharyngeal is, according to the experiments of Müller and Hein, the motor nerve of the stylopharyngeus, and probably also of the palatoglossus. Its branches to the digastricus, stylohyoideus, and constrictors of the pharynx, appear to be sensitive ones, or else

derived from the facial and accessory nerves, with which it has previously united.

3d. The pneumogastric is, from its origin, composed of both sensitive and motor fibres. But it is undecided whether it alone supplies any particular muscles, or whether, in all its muscular branches, and especially in those given off above the œsophageal, there are filaments from the accessory as well as from its own roots.

4th. The accessory nerve contains, in all its lower roots, motor fibres alone; in its upper roots, it is not improbable that there are some sensitive fibres also. It is a motor nerve of the sterno-mastoid and trapezius muscles; and very probably it gives, by this internal branch and other communications, motor fibres to the pneumogastric, from which they are subsequently distributed to some or all of the muscles of the larynx and pharynx; and, in some animals, to the muscles of the palate.

The main difficulty in assigning exactly to the pneumogastric and spinal accessory nerves their respective functions, depends on the intimate commingling of the fibres forming the uppermost roots of the accessory with those forming the lower roots of the pneumogastric; so that it is hard to say whether some fibres belong to the one nerve or to the other; therefore as Mr. Paget observes, before we can hope to distinguish precisely the physiological properties of these two nerves, we must learn to distinguish them (if, indeed, they are two nerves,) anatomically.

24. *Anterior thoracic nerve.* Dr. Hargrave considers that the anterior thoracic nerve from the brachial plexus, inasmuch as it supplies the subclavius, pectoralis major and minor muscles, which muscles, he says, are especially concerned in dyspnea and orthopnea, ought to be added to the respiratory system of nerves, as laid down by Sir C. Bell. This nerve, he states, performs a function analogous to that performed by the external inferior respiratory nerve in respiration, namely, to associate in this movement, the muscles to which it is distributed, with the serratus magnus, the diaphragm, sternomastoid, and trapezius muscles. Dr. Hargrave, therefore, proposes to call this nerve the *anterior, inferior, external respiratory*, in reference to the aspect of the thorax to which it is distributed.

25. *Pacinian corpuscles.* The following account of these little bodies is given by Mr. Paget. "The investigations of Henle and Kölliker have proved a new and peculiar mode of peripheral termination of the nerve fibres in the little bodies, seated especially in the nerves of the fingers and toes, which were discovered, and to a certain point well described, by Pacini, of Padua, in 1830. These *Pacinian corpuscles* are found in man at all ages after the twenty-second week of fetal life, and under all circumstances, and in many mammalia. They are most numerous on the cutaneous nerves of the hands and feet; but they occur also, sometimes, on other sensitive cerebro-spinal nerves, and on the sympathetic plexuses in the mesentery and mesocolon, and about the pancreas, where they are especially numerous in cats. In man, from 150 to 350 may be counted on a single limb;



and they are chiefly abundant on the branches of the digital nerves, just penetrating the cutis, to which they are attached singly or in pairs, or sometimes in groups, by little fibro-cellular pedicles. Through the pedicle of each, a single primitive nerve-fibril passes into the corpuscle. The corpuscles are of various forms, elliptic, ovate, obovate, crescentic, or reniform; they measure (in parts of a line) from  $\cdot 66$  to  $1\cdot 2$  in length, and from  $\cdot 45$  to  $\cdot 6$  in breadth. They are semi-transparent, slightly glistening, and appear as if a central cord passed through them. Each of them is composed of from 40 to 60 very thin coats, arranged round a central canal or cavity, like so many capsules inclosed one within another; and each coat or capsule is composed of two layers of fibro-cellular tissue, an outer layer with circular, and an inner with longitudinal fibres. Between each two adjacent layers or capsules, there is an albuminous fluid; it is most abundant between the outer capsules, which are less compactly arranged than the central ones. The outermost of all the capsules in each corpuscle is connected by cellular tissue with the adjacent parts, from which also blood vessels penetrate inwards through more than half the layers. Here and there the adjacent capsules appear connected by partial septa extending across the spaces containing the fluid, and this is especially the case at the end opposite the pedicle. The canal or cavity in the axis of each corpuscle contains a fluid like that between the capsules, and, in this fluid, a primitive nerve-fibril. The nerve-fibril, after traversing the pedicle of the corpuscle, and a conical prolongation from the end of the pedicle through the substance of the lower part of the corpuscle, enters the cavity, and at once becomes smaller, paler, and flatter. It passes along the cavity, and at or near its distal end, terminates in a knob, or by bifurcating; in no case is anything formed like the *terminal loops* of nerves, and it is very rarely that more than one nervous fibril enters a corpuscle; neither does the terminal enlargement of the nerve-fibril resemble a ganglion corpuscle. Of the use of these bodies little can be said. It is suggested, that as their construction with alternate layers of membrane and fluid is rather like that of the electric organs of the electric ray, &c., these also may be electric organs, and, according to Pacini, the chief agents in mesmeric operations. But Henle and Kölliker could find no manifestations of free electricity in them during life. Their not occurring upon any known motor nerves, would appear to prove that they have nothing to do with motion; but their existence on many nerves of the sympathetic system, and their non-existence on many sensitive nerves make it probable that they are not connected with acuteness of sensation. They may be electric organs, as their peculiar form suggests, but before they can be concluded to have any relation to animal magnetism, it would be advisable to prove that *that* has any relation (except in name) to physical magnetism, or any form of electricity."

26. *Sympathetic system: use of the sympathetic nerve and its ganglia.* With regard to the function of the sympathetic system, Dr. Procter says: "The nearest approach to a positive determination of its use that we can come to with our present limited knowledge is, that it is

for the purpose of regulating the tonic contraction of the arterial system, and for *nothing else*." He states the necessity of so important a system as the arterial, having a controlling and directing power, and observes, "that in all parts of the animal body, where large and sudden supplies of blood are required at irregular periods—such as the heart, stomach, intestines, and organs of generation; there we have the ganglionic or sympathetic system very fully developed." He explains the reason why so few nerves of the sympathetic system are found accompanying the arteries of the extremities, by the fact that the parts to which these vessels are distributed do not require the same large, sudden, and irregular supplies of blood as do the several organs and viscera of the body—[and yet the condition of a limb in full action compared with its condition after a long rest, differs as much in regard to the quantity of blood circulating through it, as does that of an organ in full secretion compared with that of the same organ in a quiescent state, so that Dr. Procter's reason for the comparative absence of sympathetic fibres accompanying the arteries of the limbs, does not explain the circumstance sufficiently.]

27. *Splanchnic nerve*. M. Bourgery, in a late memoir, considers that the splanchnic system of nerves consists of five parts. 1st. Of some visceral and organic nerves, the fundamental part of the splanchnic nervous system. 2d. Of ganglionic portions, which are considered as the general centres of excitement and of harmonization of that group of organs, and usually, as functional auxiliaries to each other. 3d. Of *extra-visceral* plexuses, or chains of communication between the different organs of the same group, between these and the various ganglionic centres, and between these various centres themselves. 4th. Of the two longitudinal chains of communication with the central extremity of the nerves, or properly the two cords parallel with the cerebro-spinal axis, known under the name of the great sympathetic. 5th. The last part of the splanchnic nervous system consists of anastomoses of the ganglionic nerves with the peripheral extremities of the cerebro-spinal nerves. M. Bourgery also mentions having observed in great abundance the nerves of synovial and serous membranes, and states also that he has observed ganglia and gray nervous matter on certain parts of the cerebro-spinal nerves, especially the trigemini and pneumogastric nerves, which offer some explanation for the similarity in function between these nerves and the great sympathetic observed by physiologists.

28. *Union of divided extremities of nerves*. The possibility of the divided extremities of two nerves of totally different functions being made to unite with each other has been again advanced by M. Tavignot. The conclusions he has arrived at coincide with the observations previously made by M. Flourens, though they are opposed to the results obtained by Dr. Bidder, who experimented on the lingual and hypoglossal nerves, and was led to the conclusion that such an union does not take place. M. Tavignot considered that since any nerve which has been divided may have its continuity and its functions completely restored by keeping its divided extremities in appo-



sition for some time, so also it might be possible that the divided extremities of nerves of different functions might be induced to unite, and that the function of each nerve might thus be restored. From some experiments which he made on this subject he found:—1st. That if two adjoining nervous cords of different functions be included together in a single ligature so as to effect their simultaneous division, there is shortly developed between the four extremities a kind of nervous ganglion which is common to each of them, and in which the fibres of the two nerves and their functions seem confounded; and 2d. That if two adjoining nerves of different functions be divided, and the upper end of one be adapted to the lower end of the other and kept in apposition, the formation of a new nerve preserving the functions of the old one is effected. [The latter of these conclusions is so opposed to the results of Dr. Bidder's experiments, and so far from being in conformity with the laws by which the functions of the nervous system seem governed, that further observations are requisite before its probability can be admitted.]

29. *Re-establishment of sensibility in autoplasic flaps.* Some curious observations have been offered by M. Jobert de Lamballe, which seem to show that the sensibility of flaps in autoplasic operations is restored through the medium of blood-vessels, and not through that of demonstrable nerve-fibres. The following are his observations: 1st. Immediately after autoplasic operations the sensibility of the flap diminishes or disappears: this is in direct relation with the loss of blood. 2d. Until the section of the pedicle some degree of sensibility is retained. 3d. At the expiration of a certain period after this section, vascularity and sensibility re-appear in the flap simultaneously, and increase in an equal ratio. 4th. In many cases the vascularity of the flap becomes considerable, and its sensibility is then increased in a proportional degree. Anatomical investigation has furnished the following facts:—1st. The autoplasic flaps after the section of the pedicle, are isolated from the rest of the system by a cicatricial tissue. 2d. There exists as means of communication between the flaps and the rest of the organization, only those vessels which traverse the tissues of the cicatrix; nervous filaments are never seen in this new formation. 3d. The nerves which originally existed in the flap, waste and eventually disappear. 4th. The nerves of the part surrounding the flap stop at its borders; sometimes they terminate abruptly in a kind of enlargement of the neurilema, at others they are lost in the tissue of the cicatrix, without its ever being possible to trace them into the flap.

30. *Functions of the nervous system.* Some curious views regarding the functions of the nervous system have recently been advanced by Natansen. He considers that each nerve of sensation is composed of several kinds of nerves, each of which has its own peculiar function. Thus the nerves of touch would comprise those which perceive temperature, others which perceive the resistance of bodies, and lastly, others possessing the property of touch, properly so called. In proof, Natansen instances the fact, that either of these faculties may be tempora-

rily lost without the other two being so ; thus, when the arm has been "asleep," and sensibility is returning in it, the hand first perceives temperature, then the resistance of bodies, and it is only after some time that the faculty of touch properly so called can be exercised ; in the lower extremities the contrary takes place, the sense of touch first returns, then we experience a sensation of pricking followed by the perception of temperature, whilst the faculty of appreciating the resistance of bodies returns last. With regard to the optic nerve, he admits three kinds of nerves : those of red, of blue, and of yellow light, which are the bases of all other colours. It is not alone the optic nerves which admit of being impressed by light—light may also act upon the nerves of the eyelids, not so as to produce the phenomena of vision, but so as to excite a sense of pricking ; in proof of this M. Natansen states, that he has often observed in blind individuals, even where the globe of the eye has been lost, that light has occasioned to them a painful sensation almost amounting to "photophoby." He analyses in the same manner the senses of taste, of touch, &c., and considers that they all confirm his statement, that all nerves of sensation are not simple, but are composed of several different kinds of nerves, to each of which belongs a peculiar function different to that of the others. He ventures also to explain the varieties of the intellectual faculties in the same way.

31. *Relative weight of the different portions of the brain.* M. Bourguery finds that the mean weight of the encephalon, or central nervous mass being 20393.5 grains troy, the cerebral hemispheres stand for 16940.46 grains of that quantity, the cerebellum for 2176.7 grs., the cephalic prolongation of the cerebro-spinal axis for 1312.2 grs., of which the optic thalami and corpora striata take 879.9 grs. ; the medulla oblongata, with the pons varolii, 432.2 grs., and the spinal cord 710.1 grain. Hence, in man, the cerebral hemispheres include a nervous mass which is *four* times that of all the rest of the cerebro-spinal mass, *nine* times that of the cerebellum, *thirteen* times that of the cephalic stem of the spinal cord, and *twenty-four* times that of the spinal cord itself.

32. *Eye. Action of the oblique muscles.* Dr. George Johnson has performed some experiments to determine the action of the oblique muscles of the eye, and has obtained results similar to those arrived at by Volkman and others, proving the truth of Hunter's opinion, that these muscles rotate the eyeball on its antero-posterior axis, and so keep the eye steadily fixed on an object we are regarding, during certain movements of the head, as from shoulder to shoulder, (the effects of which are not corrected by the recti muscles,) and thus enable the image of the object to be kept on the same point of the retina, and not be allowed to move over its surface, which it would do, during these movements of the head, were there no oblique muscles to counteract this tendency. In Dr. Johnson's experiments, a dog was killed by the injection of air into a vein, and immediately the inferior oblique muscle was exposed by dissecting off the conjunctiva without in any way interfering with the surrounding parts ; by means of two fine wires, a slight electric current was then directed through



the muscle. The effect was a rapid rotation of the eye upon its antero-posterior axis, so that a piece of paper placed at the outer margin of the cornea passed downwards and then inwards towards the nose. The superior oblique was then exposed at the back of the orbit, and was treated in the same manner. The rotary movement produced was precisely the reverse of the former; the paper at the outer margin of the cornea passed upwards, and then inwards towards the nose. In the case of the superior oblique the movement was less extensive, the irritability of the muscle being less, perhaps from the delay in exposing it and from some slight injury inflicted on it in so doing. There could be no doubt as to the direction of the movement in both cases; there was not the slightest appearance of elevation, depression, abduction, or adduction, of the cornea. The experiment was subsequently repeated on another dog with precisely the same result.

33. *Muscae volitantes*. Dr. Jago considers that those minute globular particles, which may always be seen in the healthy eye by looking through a card with a small aperture, (and which, when in great abundance, and visible without looking through the aperture in a card, are called *muscae volitantes*), are seated in the vitreous humour, and constitute a natural and essential part of this fluid. That they exist in a fluid is manifest from their floating and moving about in the interior of the eye; thus, when we raise the eye to look at an object, they evidently continue to move in the same direction even after the eye is stopped; and then, after balancing a moment, commence to descend again to their usual places. That they are near to the retina and far from the cornea seems proved by this experiment; when a card (through a small aperture in which we are looking) is moved across the axis of the eye in any direction, these little particles move in the same direction, but through a less space than that travelled by the card, or by a tear which we can see. These two circumstances seem to point to the vitreous humour as the seat of *muscae volitantes*.—*Half Yearly Abstract*.

(To be Continued.)

*Menstruation in an Infant*. By W. H. WHITMORE, Esq., Surgeon, Cheltenham. Among the family of Mrs. M. was a female child, who, from a few days after birth, had the catamenia regularly, at periods of three weeks and two or three days, until she had attained the age of four years and some months, when she died, after an illness of forty-eight hours. She was attended by Dr. Christie, who for more than a year before her decease, had satisfied himself of the fact. The detailed particulars were communicated to me by Dr. Christie, by whose permission I had an opportunity of witnessing the examination of the body.

When laid out for dissection, its great development was very striking—equalling that of a girl 10 or 11 years of age. The *mammæ* were unusually large, the *mons veneris* collapsed, but well covered

with hair, the labia pudendi sparingly so, though of unusual size for a child.

She was of a fair complexion; and her hair, which was of a dark brown colour, was very plentiful. In the absence of her periodical ailments, she would enter into all the amusements of children of her own age; but when she was indisposed, she was exceedingly reserved, and would withdraw from all her playful occupations. When interrogated by familiar acquaintances as to her reason for absenting herself on these occasions from the amusements of other children, she would answer that she was indisposed; but when the same question was proposed to her by those with whom she was not intimate, she would merely blush, without making any reply. There were other young females in the same family, but in them the function referred to manifested no irregularity.—*Northern Journal of Medicine* for July, 1845.

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*Account of a specimen of Partial Fracture of the neck of the thigh-bone: and Remarks on the Proper Source of Nutrition of the Head of the Bone.* By T. WILKINSON KING, Esq. — Surgeons are aware, that the inferior part or buttress of the cervix femoris, or that part between the head and the trochanter minor, is by far the most solid. All the super-incumbent weight is directed on this part, and thus, it would seem, its comparative hyper-nutrition is excited or induced; it happens, however, that, with general senile atrophy, and loss of elasticity and agility, this part is particularly prone to give way; the head of the bone sinks into the dense shell, and the inferior fragment is driven up into the cancelli of the head. At the same time, less violence is done to the thin elastic shell of the upper part of the neck of the femur, or that between the shell and the trochanter major. Possibly it is not a very rare event that in this way fracture extends through somewhat more than half of the neck. Considering the fact of partial fracture of the neck as sufficiently established, I wish to connect it with the peculiar mode of nutrition of the head of the femur. The artery which supplies the head of the femur, while it constitutes an epiphysis, is persistent through life. It is a large terminal branch of the internal circumflex artery, which enters a foramen a little below and behind the highest point of the neck of the femur. After this it curves over the denser layer of cancelli, left by the union of the epiphysis to the shaft, directing its course beyond the insertion of the round ligament, to which, I doubt not, it furnishes nourishment.

Now, it is remarkable, that this vessel occupies the situation of the greatest immunity from violence; and that if only a little periosteum about it escape division when complete fracture occurs, it may be left entire to sustain that which I think could scarcely live without it. This consideration seems corroborated by all the examples I have examined of ligamentous union after fracture at this part. Whether there be a re-union by solid ligament, by a few scattered bands, or by a kind of capsule and cell, (all rare events,) I find the course of this vessel apparently uninterrupted.



It is needless to say, that these observations apply to the doubtful cases of bony re-union of the cervix femoris. I would add, there may be more reasons against bony union at this part than have yet been considered. The fracture is often as much the result of atrophy as of violence, and the atrophy proceeds after the fracture has taken place. The position of the head in a good variety of supposed specimens of united fracture, indicates the course of alteration I have pointed out; the pit of the head, instead of presenting upwards and inwards, faces inwards, or inwards and downwards; evidently showing that the upper connections or relations of the head have been much less changed than the lower or inner. Nature can but feebly, and rarely, and perhaps never, make any efficient effort to re-unite fractures which separate the head of the femur from its basis.—Abridged from *Guy's Hospital Reports—Lond. and Ed. Monthly Journ. Med. Science.*

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*Cases of Abscess connected with the Urinary Bladder. Communicated by DR. SPITTAL, Edinburgh.*—CASE 1. The following imperfect notes of this case may be interesting on account of the rarity of the attendant circumstances. The patient, J. W., a man aged thirty, while engaged in sinking a pit, was struck on the back by the falling in of a stone upon him. From this period, he lost all power of motion and sensation in the lower extremities; and could not retain his excretions. For about eight years he continued much in the same condition, the urine flowing incontinently; and he neglected the use of the catheter. His general health during this time remained good; but his lower extremities became very much emaciated, and, owing to his complete want of sensation, the extremities of his toes sometimes became a prey to mice, which left sanguinary evidence of their partiality. In the month of March, of the eighth year after the injury, after considerable uneasiness in the region of the bladder, an abscess formed in the hypogastrium, midway between the pubes and umbilicus, in the mesial line. This abscess gave way externally, as well as into the bladder, and along with pus, *all the urine flowed for seven weeks from this opening in the parietes of the abdomen*, the use of the catheter having been objected to. About the end of the above period, the urine flowed from the urethra as before, his general health having suffered very little during the continuance of the circumstances related. He lived for more than a year afterwards, and died rather suddenly, after suffering from acute pain in the head, followed by convulsions, delirium and coma.

*Examination of the body.*—The spine projected, in a somewhat conical form, about the lowest dorsal vertebræ. The spinal cavity was found much diminished in its calibre, and the spinal cord, having been much pressed upon, was considerably atrophied at this point. The urinary bladder was enlarged and much thickened in its coats, and presented at its fundus a cicatrix corresponding to an external cicatrix, in the site of the abscess, on the surface of the abdomen, where the bladder had formed a firm attachment to the parietes. The cicatrices showed that the perforation, by the abscess, had oc-

curved in the upper part of that portion of the bladder uncovered by the peritoneum. The ureters were irregularly thickened and enlarged; and the pelvis of both kidneys was enlarged, while the substance of these organs had become atrophied, but seemed otherwise healthy. The condition of the bladder, ureters, and kidneys described, probably resulted from the mechanical pressure of the urine on these parts; for that fluid would only find its way by the urethra, after full distension of the bladder, when most likely the valvular entrance of the ureters was rendered of no avail. This state of matters may also account, perhaps, for the occurrence of the abscess itself; and the cause of death may have been intimately connected with the diminished eliminating powers of the kidneys in their atrophied condition, while, at the same time, labouring under a mechanically diminished supply of blood,—the most probable cause of the condition described.

On mentioning the features of this case to Mr. Goodsir, that distinguished anatomist informed me of a very interesting and somewhat similar case, of which he was good enough to send me the notes which I subjoin.

CASE 2. T. M., aged seventy, a carpenter, of robust constitution, had, from an early period of his life, been liable to retention of urine, after indulging in the use even of the smallest quantity of ardent spirits. These attacks of retention were invariably, and easily, relieved by a single introduction of the catheter. For the last three years of his life, he suffered from symptoms resembling those of stone, and, in particular, from pain at the point of the pelvis, bloody urine, &c. Latterly, he complained of tenesmus, and a feeling of stuffing in the rectum, and difficulty in emptying that bowel, as if from the presence of a foreign body in its neighbourhood. He also passed ammoniacal mucus by the urethra. The examination of the prostate by the rectum, nevertheless, detected no enlargement of that organ; and a stone could not be detected by the sound. All the usual expedients were adopted for the relief, both of the vesical and prostatic symptoms, but without the smallest benefit. He died exhausted, after passing from his bladder what appeared to be purulent matter.

An examination of the body revealed the cause of the symptoms. The urethra was perfectly healthy. The prostate was not enlarged. The bladder appeared thin, as if from distention. Between the fundus of the bladder and the umbilicus, in front of the peritoneum, behind the abdominal muscles, and apparently in the substance of the urachus, was situated an abscess of a conical form. The apex of the abscess extended to within an inch of the umbilicus; its base was rounded, and was attached to the fundus of the bladder, but separated from it by a neck or constriction of the peritoneum, presenting the appearance, when viewed from the abdominal aspect, of a second bladder, connected by an isthmus to the fundus of the first. The walls of the abscess were rough and floculated, and its cavity communicated with the bladder by an ulcerated opening, apparently of recent origin.—*Lon. Mon. Jour. of Med. Science.*



*State of Medicine in Spain. 1845.*—Unfortunate the wight who falls ill in Spain, as, whatever his original complaint, it is too often followed by secondary and worse symptoms, the native doctor. The faculty at Madrid are little in advance of their provincial colleagues, —nay, often they are more destructive, since, being practitioners *en la Corte*, the heaven on earth, they are in proportion superior to the medical men of the rest of the world, of whom of course they can learn nothing. They are, however, at least a century behind the practitioners of England. Their notions and practice are classical, oriental, and antiquated, and their acquaintance with modern works, inventions, and operations, very limited. Their text-books and authorities are Galen, Celsus, Hippocrates, and Boerhave; the names of Hunter, Harvey, and Astley Cooper, are scarcely more known among their M. D.s than the last discoveries of Herschel; the light of such distant planets has not had time to arrive.

Meanwhile, as in courts of justice and other matters in Spain, all sounds admirably on *paper*—the forms, regulations, and system are perfect in theory. Colleges of physicians and surgeons superintend the science; the professors are members of learned societies; lectures are delivered, examinations are conducted, and certificates, duly signed and sealed, are given. The young *Galenista* is furnished with a license to kill. What is wanting from beginning to end, to practitioner and patient, is *life*. The salaries of teachers are ill paid, and the pupils are tampered with and their studies thought dangerous, not to private but the public weal; thus Ferdinand VII., on the news of the three glorious days of Paris, shut up the medical schools, opening, it is true, by way of compensation, a university for killing bulls *secundem artem*. The medical men know, nevertheless, every aphorism of the ancients by rote, and *discourse* as eloquently and plausibly on any case as do their ministers in the Cortes. Both write capital *documentos*, theories and opinions, extemporaneously. Their splendid language supplies words which seem to have cost thought. What is wanting is *practice*, and that clinical and best of education where the case is brought before the student with the corollary of skilful treatment.

As in their modern art and literature, there is little originality in Spanish medicine. It is chiefly a veneering of other men's ideas, or an adaptation of ancient and Moorish science. Most of their technical terms, *jalea*, *elixir*, *jarave*, *rob*, *sorbete*, *juleps*, &c., are purely Arabic, and indicate the sources from whence the knowledge was obtained; and whenever they depart from the daring ways of their ancestors, it is to adopt a timid French system. The few additions to their medical libraries are translations from their neighbors, just as the scanty *materia medica* in their apothecaries' shops is rendered more ineffective by quack nostrums from Paris. In spite of these lamentable deficiencies, the self-esteem of the medical men exceeds, if possible, that of the military; both have killed their "ten thousands." They hold themselves to be the first *sabreurs*, physicians, and surgeons on earth, and best qualified to wield the shears of the

Parcæ. It would be a waste of time to try to dispel this fatal delusion; the well-intentioned monitor would simply be set down as malevolent, envious, and an ass; for they think their ignorance the perfection of human skill. No foreigner can ever hope to succeed among them, nor can any native who may have studied abroad easily introduce a better system. All his brethren would make common cause against him as an innovator. He would be summoned to no consultations, the most lucrative branch of practice, while the confessors would poison the ears of the women (who govern the men,) with cautions against the danger to their souls of having their bodies cured by a Jew, a heretic, or a foreigner, for the terms are almost convertible.

Dissection is now repulsive to their oriental prejudices; the pupils learn rather by plates, diagrams, models, preparations, and skeletons, than from anatomical experiments on a subject; their practice necessarily is limited. In difficult cases of compound fracture, gunshot wounds, the doctors give the patient up almost at once, although they continue to meet and take fees until death relieves him of his complicated sufferings. In chronic cases and slighter fractures they are less dangerous; for as their pottering remedies do neither good nor harm, the struggle for life and death is left to nature, who sometimes works the cure. In acute diseases and inflammations they seldom succeed; for however fond of the lancet, they only nibble with the case, and are scared at the bold decided practice of Englishmen, whereat they shrug up shoulders, invoke saints, and descant learnedly on the impossibility of treating complaints under the bright sun and warm air of catholic Spain, after the formulæ of cold, damp, and foggy, heretical England.

Most Spaniards who can afford it, have their family doctor, or *Medico de Cabecera*, and their confessor. This pair take care of the bodies and souls of the whole house, bring them gossip, share their *puchero*, purse, and tobacco. They rule the husband through the women and the nursery; nor do they allow their exclusive privileges to be infringed on. Etiquette is the life of a Spaniard, and often his death. Every one knows that Philip III. was killed, rather than violate a form. He was seated too near the fire, and although burning, of course as king of Spain the impropriety of moving himself never entered his head; and when he requested one of his attendants to do so, none, in the absence of the proper officer whose duty it was to superintend the royal chair, ventured to take that improper liberty. In case of sudden emergencies among her Catholic Majesty's subjects, unless the family doctor be present, any other one, even if called in, generally declines acting until the regular Esculapius arrives. An English medical friend of ours saved a Spaniard's life by chancing to arrive when the patient, in an apoplectic fit, was foaming at the mouth and wrestling with death; all this time a strange doctor was sitting quietly in the next room smoking his cigar at the *brasero* with the women of the family. Our friend instantly took thirty ounces from the sufferer's arm, not one of the Spanish party even moving from their seats, hunc sic servavit Apollo!



The Spanish medical men pull together—a rare exception in Spain—and play into each other's hands. The family doctor, whenever appearances will in anywise justify him, becomes alarmed, and requires a consultation, a *Junta*. What any Spanish Junta is, need not be explained; and these are like the rest, they either do nothing or what they do, is done badly. At these meetings from three to seven *Medicus de apelacion*, consulting physicians, attend, or more, according to the patient's purse; each goes to the sick man, feels his pulse, asks him some questions, and then retires to the next room to consult, generally allowing the invalid the benefit of hearing what passes. The *Protomedico*, or senior, takes the chair; and while all are lighting their cigars, the family doctor opens the case, by stating the birth, parentage, and history of the patient, his constitution, the complaint, and the medicines hitherto prescribed. The senior next rises, and gives his opinion, often speaking for half an hour; the others follow in their rotation, and then the *Protomedico*, like a judge, sums up, going over each opinion with comments; the usual termination is either to confirm the previous treatment, or order some insignificant *tisana*; the only certain thing is to appoint another consultation for the next day, for which the fees are heavy, each taking from three to five dollars. The consultation often lasts many hours, and is a chronic complaint. It occurred to our same medical friend to accidentally call on a person who had an inflammation in the cornea of the eye; on questioning he found that many consultations had been previously held, at which no determination was come to until at the last, when sea-bathing was prescribed, with a course of asses' milk and Chiclana snake-broth; our heretical friend, who lacked the true *Fe*, just touched the diseased part with caustic. When this application was reported at the next *Junta*, the *Medicos* all crossed themselves with horror and amazement, which was increased when the patient recovered in a week.

The trade of a druggist is anything but free; none may open a *Botica* without a strict examination and license; of course this is to be had for money. None may sell any potent medicine, except according to the prescription of some *local* medical man; every thing is a monopoly. The commonest drugs are often either wanting or grossly adulterated, but, as in their arsenals and larders, no dispenser will admit such destitution; *hay de todo*, swears he, and gallantly makes up the prescription simply by substituting other ingredients; and as the correct ones nine times out of ten are harmless, no great injury is sustained; if, by chance, the patient dies, the doctor and the disease bear the blame. Perhaps the old Iberian custom was the safest; the sick were exposed outside their doors, and the advice of casual passengers was asked (Strabo, iii., 324,) whose prescriptions were quite as likely to answer as images, relics, *bouillon aux vipres*, or milk of almonds or asses.

The poor and more numerous class, especially in the rural districts, seldom use physic—oh fortunati nimium! Like their mules they are rarely ill; they only take to their beds to die. If they do consult

any one, it is the barber, the quack, or *curandero*; for there is generally in Spain some charlatan wherever sword, rosary, pen, or lancet is to be wielded. The nostrums, charms, relics, incantations, &c., to which recourse is had, when not mediæval, are pagan. For the spiritual pharmacopœia see Sa, Engracia's lamp oil and our remarks (Zaragoza.) The patients cannot always be expected to recover even then, since "*Para todo hay remedio, sino para la muerte.*"—"There is a remedy for everything except death." The transition from surgeons to barbers is easy in Spain; nay, shaving in this land, where whiskers were the type of valour and knighthood, long took the precedence over surgery; and even now, the shops of the Figaros are far more interesting than the hospitals. Here most ludicrous experiments are tried on the teeth and veins of the brave vulgar. The *Tienda de Barbero* is distinguished by a Mambrino's helmet basin, by phlebotomical symbols, and generally a rude painting of bleeding at the foot; huge grinders are hung up, which in a church would be exhibited as relics of St. Christopher; inside is a guitar and prints of bull-fights, while Figaro, the centre of all, is the personification of bustle and gossip. Few Spaniards can shave themselves; it is too mechanical, even supposing their cut-throats could make a razor. Like orientals, they prefer a "razor that is hired." These Figaros shave well, but not silently, the request of the Andaluz Adrian; garrulous by nature and trade, they have their own way in talk; for when a man is in their operating chair, with his jaws lathered, his nose between a finger and thumb, and a sharp blade at his throat, there is not much conversational fair play or reciprocity.—*Ford's Spain.—Med. Gazette.*

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*Remarkable Case of Phlegmasia Dolens, with Dissection.* By M. BARNETCHE, Physician to the Maternity, Bourdeaux.—Isab. Bruquet was delivered of her second child on the 2d December, 1844. The duration of the labor was twelve hours, the child presenting in the first position. From the fifth month of pregnancy she had suffered from pains, various in degree, and which continued till the period of delivery. Fifty hours after delivery she had slight milk fever, and on the fourth day she suffered severely from intense pain of the right leg and thigh; when seen at six o'clock that evening by Dr. B., he found the limb swollen, boggy, and warm, and in the whole length of its anterior surface, covered with a violet red line about 2 centimetres (9 lines) broad; enlarged glands were observed under the skin, more especially in the leg; the other portions of the limb were of a dull white colour, and as it were infiltrated: there was also fever. (Forty leeches to be applied on each side, and above and below the red line, linseed meal poultice, and decoction of dog's grass.) On the 7th, pain and inflammation less, redness almost gone, but boggiess continued; lochia natural, slight fever; no pain of abdomen. (Decoction of marsh mallow, warm bath, poultice to whole of limb.) The melioration continued to the 9th, when there was a marked increase of swelling, without any additional pain; complete apyrexia. On the 10th the right leg and thigh had considerable in-



creased in size; and towards the middle of the internal portion of the former, a red spot was discovered; constipation, pulse quick. (Twelve leeches round the inflamed spot, poultice, and a dose of castor oil.) During the night a large phlyctena formed over the spot, which burst, and gave vent to a reddish serosity; no appreciable fluctuation. On the 11th the pulse was full and frequent, the skin dry, tongue red at the point, abdomen soft; abundant exudation of bloody serosity from the phlyctena; deep infiltration of limb, which was very large, and pitted every where on pressure. The left limb now also commenced to be painful, swollen, and of a deep red at the middle portion of its internal surface; six stools, lochia purulent. (Marsh-mallow, wine poultice to the right limb; twelve leeches round the red portion of the left.) Towards evening, the left arm became painful, and the patient also complained of some tenderness over the region of the sacrum, the skin covering which was of the color of the lees of wine. On the 12th, pulse tolerably quiet; complete inability to move the lower extremities; state of arm, tongue, and abdomen the same; no pain on pressure over the pubes. (Wine and water; acidulated decoction of quina; wine poultices to the legs; flannel steeped in camphor to the arm; sacrum to be dusted with the powder of quina and camphor.) On the 14th, there was a marked look of stupidity; the state of the limbs continued the same till the 18th. At that period, the arm ceased to be painful; the poultice was covered with pus; a free issue was given to it by incision; the eschar covering the sacrum had not increased in size, and had become as it were tanned; tongue red, great thirst, pulse febrile. The patient experienced great difficulty in raising the left eye-lid, and in the course of two hours it became altogether impossible to do so. In the course of the evening, the lid of the right eye became affected in a similar way, and it was thought there was some diminution in the power of vision. At his evening visit, Dr. B. found the patient was quite insensible to the light of a candle moved as near the globe of the eye as possible. (Lemonade; acidulated decoction of quina; dressing *ad usum*; soup with wine; blister to the nape of the neck.) 18th. A tolerable night; appearance better; considerable œdema both of the mucous membrane of the palpebræ and eye protruding between the free edges of the former in the left side; on the globe of the eye it was confined to the transparent cornea, now become dull, around which it projected to the extent of a line; commencing œdema of the free edges of the palpebræ of the right side. The left leg had regained its natural size; abundant suppuration from the right leg. (*Ut supra*; blister dressing; compression of the right leg.) 19th. Pulse febrile; mucous membrane of the palpebræ projecting, strangulated here and there, and from two or three points a yellow serosity escaped. 20th and 21st. Little change in the state of the patient; some appetite however. (Same treatment; soups.) During the night of the 21st, the face became flushed and the pulse accelerated. At the morning visit on the 22d, there was fever, with great irregularity in the pulsations of the heart; respiration laborious; crepitating rattle at the summit of the right lung, also

in the left, and more marked, the symptoms continued to increase. On the 23, pulse thready; blisters and sinapisms caused no redness of skin; died in the afternoon.

**DISSECTION.** *External appearance.*—The body, opened eighteen hours after death, exhaled a strong fetid odour of animal matter in a state of decomposition. The inferior extremities were much swollen and infiltrated. There was gangrenous ulceration over the sacrum; the bone was of a dark grey colour, and filled with pus to the depth of two centimetres. On dissecting the cutis from the right limb, the cellular tissue was found attenuated, of a greyish colour, soaked in liquid, and dissolved as it were in serum. The popliteal and inguinal glands were enlarged and hard, of a whitish-grey colour, and several contained pus; the mesenteric glands were likewise found enlarged, some in a state of suppuration. The left limb was merely œdematous; no pus was found in the cellular tissue, nor were the lymphatic glands enlarged. There was evident hardness and redness of the right axillary glands.

*Cranium.*—The brain, cerebellum, medulla oblongata, corpora striata, and thalami, were all in a normal state. There was no serum in the ventricles, but a small quantity of a citron yellow fluid was found between the pia mater and arachnoid, streaked here and there with blood, and small quantities of a fluid pus. The optic nerve, on emerging from the thalami, exhibited no change of colour, but its density was remarkable, creaking under the scissors; there was no infiltration of serum in its sheath. The mucous membrane of the palpebræ and globe of the eye had shrunk; it was of a yellow colour, and the fluid which exuded appeared to be contained in separate cells, but communicating with each other; several layers were removed by means of scissors. The globe of the eye was hard, and with difficulty compressed; a dirty yellow colour was reflected through the transparent cornea, now become dull; on opening it with caution, purulent matter escaped from the anterior chamber, the vitreous humour being replaced by a considerable quantity of greenish pus; neither the colour nor transparency of the lens had undergone any alteration; the same may be said of the fatty cushion on which the globe of the eye rests.

*Chest.*—Two cavities, of the size of a centimetre (five lines) each, were found in the superior lobe of the right lung; they contained pure pus; at a short distance from these, were two globular bodies, of a cretaceous nature, something like tubercle; there was well-marked engorgements of the posterior part of this lobe; as a whole, it was of a deep red colour, and when cut into slices it sunk in water. The inferior lobe of the left lung was almost completely hepatised. There was a small quantity of serum in the left pleura. The heart and pericardium were natural.

*Abdomen.*—The peritoneal coat of the intestines was slightly thickened, especially towards the lower end of the ileum, and over the cæcum, which was much injected. Several red spots were scattered here and there, and in the points corresponding to these, the mucous



membrane was soft and easily detached, leaving the walls of the intestines very thin and transparent. The stomach, kidneys, and bladder were natural. Spleen somewhat enlarged, and of a deep red colour; over its surface were scattered patches of a greyish tint; it was soft, and easily broke down under the fingers. Liver large and very dense. On the superior surface of the right lobe, a deep brown patch was discovered, under which there lay a clot of blood, whose diameter in all directions was about half an inch. No other alteration was perceived in the organ.

*Uterus.*—The uterus was of the normal size, but soft to the touch. The ovarian tubes were red; the ovaries themselves tumefied, and softened, and covered with a layer of pus, but without any notable alteration in their substance. On examining the interior of the uterus, its surface was found coated with a species of pap, consisting of decomposed blood and pus. This was also found in several of the veins or sinuses. The tissue of the uterus had lost all its consistency, and by moderate pressure, gave forth a sanious serosity.

*Articulations.*—The pubic and sacro-iliac articulations were healthy.

*Circulatory apparatus.*—Heart and arteries normal.

*Veins.*—A large clot of blood, found in the right auricle, extended upwards in the vena cava superior, and downwards into the vena cava inferior. Its total length was about 16 centimetres (5 inches), a second clot was found in the inferior cava, which extended into the primitive iliac veins, and produced obliteration in the latter, to the extent of about a foot (30 centimetres.) Another clot was found in the right popliteal vein, containing a thick layer of pus in its superior portion; these clots obstructed the calibre of the veins, and, in some points, adhered to them. The internal membrane was, as it were, detached, and adhered to the cloth employed to wipe the surface. The veins of the left limb appeared healthy, as did also those going to the globe of the eye.

*REMARKS.*—Notwithstanding the many works on *phlegmasia alba dolens*, it is a disease with which we are still little acquainted. For ages it has attacked females shortly after delivery, but in degrees so various, and with characters so little marked, that in turn it has been regarded as phlegmon, erysipelas, abscess, rheumatism, metastasis of the milk, &c. By some it has been regarded as rare; thus Hull only witnessed it four times in eight thousand women; whilst M. Velpeau, on the other hand, has met with it five times in eighty deliveries. We ourselves have observed it in still greater proportion; but in some of our cases its presence might have been denied, and it might only have been regarded as a rheumatic affection, or a phlegmonous erysipelas. Be this as it may, we now turn to the morbid appearances discovered, on dissection, in the above case. There are some constitutions which we may term *puogenic*. What are the appearances which reveal the presence of this unhappy organization? Of these we are ignorant and cannot therefore argue as to their being the cause of the disease with which Boquet was attacked. We may remark, however, that

during a great part of her pregnancy she suffered severely from irritation, which, from her description, we attribute to a state of sub-acute inflammation of the uterus. Labour only lasted twelve hours, and was unaccompanied with those violent contractions, which are regarded as a cause of contusion of the uterus and soft parts of the pelvis: it could not be accomplished, however, without some pressure on the pelvic vessels and nerves. We may further remark, that the child presented by the first cranial position, and that it was in the right limb, or opposite side, that the disease commenced. This fact is in opposition to the opinion published by M. Velpeau to explain the predilection of phlegmasia dolens for the left limb, viz. the greater frequency of the left occipito-frontal position.

The patient was guilty of no kind of imprudence; but, even supposing that this were not the case, I should still be inclined to regard some unknown predisposition as the most powerful cause of the disease. The symphysis pubis was intact, and exhibited not the slightest alteration in its tissue; the same may be said of the sacro-iliac articulations; we cannot, therefore, attribute the development of the disease to inflammation of these parts. No more can we consider the ulceration of the soft parts over the sacrum, nor the alteration of the periosteum of that bone, as one of its primary causes, as these did not appear till after the disease had made serious progress. Moreover, no pain was felt, either in the symphysis or sacrum, except at the period when the skin was approaching a state of sphacelus. There was no mistaking, during life, the presence of inflammation, both in the glands of the limb and mesentery, and on dissection, we had the most convincing proofs of it. We may therefore infer, that the lymphatic system played an important part in the disease, but the question still remains, was it the first to become inflamed? We cannot deny that pus was found in the large veins; clots of blood apparently obstructed the *venæ cavæ*, and the iliac veins and their branches of the left side; pus was also found in the uterine sinuses, upon the ovaries and in the lungs; in the latter, indeed, two abscesses were discovered; and at a little distance from these in the same lobe, M. Faure discovered a species of concretion, which he regarded as incipient tuberculisation, but which I am rather inclined to associate with those facts related by Dance in the *Archives Générales de Médecine*; in a few days more, this cretaceous matter would probably have become softened, and thus passed into the third stage, in the formation of abscesses in the lungs in cases of uterine phlebitis. Was this pus a consequence of lymphitis? Those who regard the glands as offering a barrier to the passage of pus will reject this idea. Was the presence of pus in the veins an irrefragable proof of phlebitis, and are we to regard inflammation of the veins of the uterus as the only source of the disease which carried off the patient? Another remarkable fact was the loss of vision, which came on so gradually, that we had to take means to satisfy ourselves of its actual extinction. Had we not reason to believe in the existence of some serious affection of that portion of the brain which presides over that function? From



its dissection, however, and notwithstanding the coriaceous texture of the optic nerve, may we not affirm that the primary cause was the conversion of the humours of the eye into pus? In fine, our conclusions from the above case are the following: 1st, That all the morbid symptoms observed in the latter months of pregnancy may be referred as well to irritation of the lymphatics as to that of the veins; 2d, That the seat and progress of the inflammation prove that the lymphatic glands were the first attacked; 3d, That the pus formed at first in them was thence carried into the venous circulation, and the remarkable appearances presented by the veins may be regarded as secondary; 4th, That *phlegmasia dolens* is sometimes a phlebitis, and that even when the symphyses may be regarded as the starting points, the general purulent infection always proceeds from the two combined; 5th, Lastly, that the part which the lymphatics play in the production of those phenomena, which, when grouped together, bear the name of *phlegmasia dolens*, is by no means of so secondary a character as has been affirmed in these latter times."—*Journ. de Méd. de Bordeaux*, as quoted in *Annales de Thérapeutique*, 7th October 1845.

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*Extract from Dr. E. D. Fenner's report on Salicine in the treatment of Intermittent fever, at the New Orleans Hospital.*—Total amount of medicine given in the 20 cases; salicine,  $\text{℥vii}$ ,  $\text{℥vi}$ ,  $\text{℥ii}$ ; piperine,  $\text{℥i}$   $\text{℥ii}$ ; quinine  $\text{℥iv}$ .

Largest amount given in any case; salicine,  $\text{℥vii}$ ; piperine,  $\text{℥iss}$ ; quinine,  $\text{℥iii}$ ,  $\text{℥i}$ .

Smallest amount given in any case; salicine,  $\text{℥i}$ , grs. x; piperine, grs. xii; quinine,  $\text{℥ii}$ .

Average amount of salicine to each patient  $\text{℥iii}$ , grs. viii.

It was first tried alone in all the 20 cases.

It succeeded when given alone, in 11 cases.

It failed when given alone, in 9 cases.

Of these, it succeeded when combined with piperine, in 4 cases.

Quinine had to be resorted to in 6 cases.

Average time of sickness previous to treatment,  $7\frac{1}{2}$  days.

Do " " under treatment  $6\frac{1}{2}$  days.

Greatest number of paroxysms, after salicine was commenced, 6 days,

Smallest " " " " " 0 days,

Average " " " " " 9 "

There were one or more paroxysms after salicine was commenced, in 14 cases.

There were none, in 6 cases.

I am informed by the Apothecary of the Hospital that the cost of salicine was \$2 00 per oz. Consequently, the value of the amount used in these 20 cases, (say  $7\frac{3}{4}$  oz.,) was about \$15 50; and of the average amount given to each patient, (say  $\text{℥iii}$ ,) 75 cents. The article appeared to be fresh and genuine.

I prescribed it in the forms of solution, powder and pill; in doses

varying from *five grains*, to *one drachm*; and at intervals of from one hour to twelve.

The general effects of the remedy appeared to be *tonic and diaphoretic*. The appetite and strength were generally improved, and the sweating was profuse. I observed *no unpleasant effect* that I could attribute to the remedy. Where it failed *to do good, it did no harm*.

*Comparative statement of 20 cases of Intermittent Fever treated with the sulphate of quinine.*

After the foregoing observations on the use of salicine were completed, I resolved to note 20 cases of intermittent fever treated mainly with quinine; with the view of ascertaining the relative *efficacy* and *cost* of the two remedies. Twenty recent admissions were taken throughout the wards of the Hospital, and of course under the care of different physicians. Upon inquiry I found that no two of them administer the remedy alike; some of them prescribe it in large doses, and at long intervals; others, the reverse; some give it alone; others, in combination with blue mass, opium, or morphia. As minute notes were taken of these 20 cases, as of the preceding; but for fear of wearying the reader, I will only give the *results*, and the conclusion to which they brought me.

Whole amount of quinine used in the 20 cases, about  $\text{℥} \text{iss}$ .

Largest amount given in any case,  $\text{℥} \text{i}$ .

Smallest amount given in any one case, grs. xviii.

Average amount of quinine given to each patient, grs. xxxvi.

It was given combined with sulph. morphia, grs. xii. to gr.  $\frac{1}{2}$  in 2 cases.

It was given combined with ext. opii, grs. xvii, to gr. i, in 4 cases.

“ “ with blue mass; grs. vi, to grs. x, in 1 case.

“ “ alone in 13 cases.

*All the cases were promptly cured.*

Average time of sickness before admission; 10 days.

“ “ after 4 “

Greatest number of paroxysms in any case after taking quinine, 2 days.

Smallest “ “ “ “ “ 0 days.

Average number of paroxysms, 35 “

There were one or more paroxysms after taking quinine, in 10 cases.

There was none, in 10 cases.

The cost of quinine was \$3 25 pr. oz, consequently the value of the whole amount used in these 20 cases, [say  $\frac{1}{2}$  oz.] was \$4 87 $\frac{1}{2}$ , the average amount, (say 36 grains,) about 26 cents.

Candour compels me to state that the cases treated by salicine were generally more severe, than those treated by quinine; it will be recollected that one of them was so malignant as to be with difficulty saved by upwards of  $\text{℥} \text{iii}$  of quinine, after having previously taken  $\text{℥} \text{iiiss}$  of salicine. The salicine cases occurred chiefly in the



months of June and July, when intermittents usually assume their worst form; the quinine cases all occurred about the first of October, when the disease is generally mildest. These circumstances are worthy of grave consideration, lest we be induced to underrate the actual virtues of salicine. However, taking the two sets of cases as they are presented to us in the foregoing comparative statement, and reviewing the effects of the two remedies in their various combinations beforementioned, we are brought to the conclusion that *the average amount of quinine required to cure 20 cases of intermittent fever, and costing 25 cents, is fully three times as efficacious as the average amount of salicine required in a like number of cases, and costing 75 cents.*

The comparison made in this instance cannot, however, be considered a perfectly fair one; but when the foregoing reports are taken in conjunction with others that will doubtless be made from the medical department of the Army, they may aid in leading us to a proper estimate of the virtues of salicine. How many of the foregoing cases would have had their paroxysms broken up merely by *the change of residence, and attention to regimen, without any medicine whatever*, must remain a matter of conjecture. My own opinion is, there would have been a goodly number. Hence the importance of exercising a sound judgment and careful observation in regard to the action and comparative value of medicines.—*New Orleans Medical and Surgical Journal*, Nov. 1845.

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*Two cases of Aneurism treated by ligature without confinement to bed—their fortunate termination.* By J. KIRBY, Esq.—Since the period in which it was satisfactorily ascertained that ligatures should induce a certain amount of division in the tunics of an artery to secure their successful application, all operators have experienced much anxiety about the degree of force they employ when an artery is being tied, especially in cases of aneurism; but more is esteemed necessary than the due adaptation of force for the purpose of ensuring a fortunate result. Repose is strictly enjoined as an essential to union, and commanded with such authority, that it appears as if the slightest infringement of rule might defeat all previously well-executed proceedings.

The following cases are calculated to abate the great solicitude, which many, in common with myself, have felt upon the latter subject. How far the cautious precept may be neglected or opposed with surprising impunity, the practical reader may judge.

CASE 1.—Some years since, assisted by my former pupils, Drs. Mathews and others, I tied the femoral artery at the groin in a man residing in Wexford street. He was young, intemperate, and there was obscure evidence of morbus cordis; of which he died in a few years. He was a thin person. The artery was easily exposed, readily secured, and matters being finished in the usual way, I felt quite satisfied that the case was one of comfortable promise.

The day was Sunday. Monday, and every succeeding day, I saw

him morning and evening. The thirteenth day the ligature came away with the dressing, &c., and the wound was healed.

I was now informed that all my rules, as to rest and quietness, were from the first neglected. Being summoned to a police office a few days before the operation, he left his house the day after it was performed, and walked about a mile to the court, repeating the journey every day for a week, during which his attendance was required. My visits being always at the same hours, he easily carried on the deception, of which one could not hold the least suspicion, as he was always found most comfortably and quietly settled in his bed.

CASE II.—I assisted Mr. Mitchell in an operation for popliteal aneurism, performed in the groin. The patient was thirty years old, very plethoric, and very intemperate. Impatient of hospital restraint, he left on the third day, and nothing was heard of him until the fourteenth, when he presented himself in a state of intoxication, with the ligature dangling on his finger, and “wishing his joy to whoever might next require to wear it.”—*Dublin Medical Press*.

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*Marriage of an Epileptic—Murder committed by him on the same day.*—Francis Seveil, aged 20, a shoemaker, had for a number of years been subject to attacks of epilepsy. They commenced from a fall on the ice. The paroxysms, which at first were attended with only slight aberrations of reason, gradually became more serious, and were accompanied with furious mania.

He had served in the 5th light troops from 1838 to 1841, and when off duty, pursued his trade. When attacked during this period, he would seize his hammer, knife, or any instrument at hand, and brandish it in a threatening manner, thus subjecting himself to the jests of his comrades.

When discharged, he returned and determined to marry. The ceremony with his affianced was fixed for the 25th of October, 1841. On the 24th, severe pains of the head came on, and which seemed to him an indication of an approaching attack. He called on the physician, who had secretly treated him for the complaint, and asked that he might be bled—an operation from which he had always derived relief. The physician declined, on the ground that this remedy should not be too frequently employed. On the 26th, a few hours before the marriage, he was bled by another physician, but without a diminution of the pain.

During the civil, as well as the religious ceremonies of the nuptials, Seveil was sedate and taciturn. He said nothing beyond the simple yes. On leaving the church, he was seized with most excruciating pain in the head, and this was so overpowering, that at the house of his father-in-law he was obliged to go to bed. The room in which he lay was adjoining that in which the nuptial dinner was spread. Here he was seized with a fit of furious epilepsy, and while the persons with him had run out to obtain ropes to bind him, he rushed naked into the dining room, with a shovel that he snatched up, pursued a female, who fled from him, and knocked her down with a blow on



the head. His father-in-law interposed, but he in turn with others, were chased. He then sat down on the ground before the door, grinding the pebbles with his teeth, and finally standing up with a shoemaker's knife in his hand, he burst open the door, exclaiming that he must kill them all. The first person that he met was his father-in-law, and whom he killed on the instant.

This attack continued for three days, so that they had to confine him in a sack. On the 29th, reason returned, but he could only remember the marriage—nothing subsequent—and supposed that he had slept since that time. He was soon transferred to the Asylum at Clement, where he still remains.

Under these circumstances, the guardian of Seveil applied to the Court, for a declaration of the nullity of the marriage, on the ground that the epileptic was not at the time in his sane mind, and could not therefore give a proper consent.

The counsel in favor of this, urged strongly the idea, that attacks of epilepsy are always preceded by gloom and taciturnity, and that the headache was a further proof that the mind was already in a diseased state.

The presumption at last was in favor of mental alienation at the moment of the ceremony.

The court decided for the nullity of the marriage.—*Gazette Des Tribunaux, Jan. 7th, 1845.*—*American Journal of Insanity.*

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*Insanity from hunger, fear and suffering.*—In Captain Fremont's interesting narrative of the second exploring expedition to Oregon, we find the following: "On the first of March, one of the men named Derosier who had volunteered to bring up Capt. Fremont's horse, had not come back to the camp and uneasiness was felt at his absence. He however made his appearance in the evening. He came in, and sitting down by the fire, began to tell us where he had been. He imagined he had been gone several days, and thought we were still at the camp, where he had left us, and we were pained to see that his mind was deranged. It appeared that he had been lost in the mountain, and hunger and fatigue, joined to weakness of body and fear of perishing in the mountains, had crazed him. The times were severe, when stout men lost their minds from extremity of suffering. The fate of this poor fellow was a melancholy one. On the 23d of March, he wandered away, and has not since been heard of."—*American Journal of Insanity.*

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*On the use of Arsenic in Intermittent Fevers.* By M. BOUDIN. We find in the Archives Générales de Médecine, (September, 1845,) the notice of a paper sent to the Royal Academy of Medicine of Paris, on the use of Arsenic in the treatment of Intermittent Fevers, from which we condense the following facts:

In the course of five years 2947 patients, of all ages, were subjected to the arsenical treatment, without the occurrence of a solitary accident attributable to the remedy. Upwards of 2000 of them had

been previously treated from one to ten times by quinine. Nearly 500 of them had been taking quinine, in vain, for several days previously. The cases treated by arsenic were taken promiscuously or without selection, and at all seasons.

The duration of the treatment was usually short, the cases rarely resisting beyond the first or second dose of arsenic. Relapses have been remarkably rare, which may be attributed to the continuance of the remedy eight or ten days after the cessation of the fever. The solutions of Fowler and of Pearson being rather inconvenient to prepare, Mr. Boudin made use of a solution of arsenious acid (white arsenic of the shops) in distilled water. The medium dose of arsenic used was a fifteenth of a grain, given three hours before the expected paroxysm; but if the case seemed obstinate, this dose was preceded by two other similar ones, at intervals of two hours.—*Southern Med. and Surg. Journ.*

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*Dropsical Affections successfully treated with Sugar.*—We find in the *Gazette Medicale* (11th Oct., 1845,) the notice of a collection of cases recently published by M. Bagot, illustrating the beneficial effects of sugar in dropsical affections. It seems to have been first used by Dr. Garnier, who, towards the close of the last century, became affected in the French West Indies with ascites, for which he was tapped three times, when, looking upon his case as hopeless, he indulged an inordinate propensity to eat sugar. Finding that it agreed with him, he soon made it his sole food, and, to his great astonishment, found his disease rapidly giving way. He was restored to perfect health, and the case published in Paris.

M. Bagot now reports about twenty cases, including almost every variety of dropsy, even one of ovarian encysted dropsy, in which sugar has been used advantageously. The brown sugar is thought preferable to the refined, and should be used almost to the exclusion of all other nourishment—the quantity being increased from a few ounces to a pound per day. The remedy is simple, and certainly worthy of trial.—*Ibid.*

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*Umbilical Hernia treated with adhesive bands.*—A recent No. of the "*Journal de Medicine de Bruxelles*" contains the following details of Dr. Seutin's method of treating umbilical hernia in children: "The hernia having been reduced, the surgeon places a small pad over the orifice and retains it with his index finger, whilst with his thumb and middle finger he draws up a fold of skin on each side of it longitudinally. The band of adhesive plaster is then applied, one end being applied by an assistant to the lumbar region, and held there until the surgeon can carry the other end over the cutaneous folds and pad, and finally to the opposite lumbar region. A roller bandage is then passed several times around the abdomen in order to secure the adhesion of the plaster, and may be removed in a few hours. Mr. S. renews this bandage every two or three weeks, and if an eruption is produced, one end of the plaster may be raised so as



to allow the application of a little cerate, without removing the whole.”  
—*Ibid.*

Professor Dugas informs us that he has been in the habit of treating umbilical hernia with adhesive plaster for the last six years, with uniform success. Prof. D. does not, however, proceed as recommended by Dr. Seutin, but simply carries a band of adhesive plaster, three inches wide and from eight to twelve inches long, across the abdomen, by first placing the center of the plaster over the reduced hernia, and maintaining it there with one hand, whilst with the other he extends the ends to each side of the body, carefully avoiding the formation of any cutaneous folds. In some cases another plaster of similar dimensions is laid over the first, in order to increase the stiffness of the application. In but one or two cases has Prof. D. resorted to a small compress of old linen over the umbilicus. According to Prof. D., the plasters are to be renewed whenever they cease to adhere firmly, or occasion an eruption—in which latter case, the plaster may be applied obliquely so as not to cover the same surface, save that about the umbilicus, which may then be covered with a bit of linen and simple cerate for a few days.

By thus applying to the skin a firm and unyielding covering, its own elasticity is overcome, and the protrusion consequently prevented.—*Ibid.*

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*Report on the use of Sulphate of Quinine, in Miasmatic Diseases of the South.* By W. H. VAN BUREN, M. D., late of the Medical Staff, U. S. Army, Prosector to the Professor of Surgery, University of the City of New York.—The following “Report,” now published by permission of the Surgeon General of the Army, to whom it was originally made, was furnished in compliance with instructions issued to the Officers of the Medical Staff, in the month of August, 1843.

To those of the profession who are not familiar with the diseases of our southern country the opinions thus imperfectly set forth may appear extravagant and ill-judged. If success, however, is the test of practice, the Archives of the Surgeon General’s Bureau will demonstrate their propriety, endorsed as they are by the approval of a majority of the most experienced army surgeons who served in Florida. As I am no longer one of their number, I may assert without impropriety that to the Medical Corps of the Army belongs the credit of first testing this practice extensively on our continent, and establishing its superiority.

Whether large doses of quinine are as well suited to Miasmatic diseases occurring in the North and West, as at the South, remains to be proved. Of this fact, however, I am convinced, that long exposure to miasmatic poison begets a tolerance of the remedy beyond that possessed by the resident of a healthy district. Since the “Report” was written I have tested the quinine in large doses in numerous instances in the city of Washington, D. C., and its immediate vicinity, and I have found no reason to alter the opinions already expressed.

New York, December, 1845.

W. H. V. B.

In answer to your '*Circular*' of the 14th ult., I have the honor to submit the following reply.

My experience in the use of large doses of sulphate of quinine, has been acquired since the commencement of my service in Florida, now more than two years ago. During the whole of this period I have been on duty, and, for the greater part of it, in charge of a command exceeding four companies of U. S. troops. On a rough estimate, I may safely say that I have treated more than 1000 cases of disease of the country up to the present time.

During the first four months of my service in Florida, I was in the habit of using quinine in doses varying from two to twenty grains, according to my judgment at that time. My authority, then, for the use of the medicine in large doses, was the experience of the French Army Surgeons in Africa, and the experiments of M. Piorry and others in Paris in 1838-39. Afterwards, by the experience of Surgeon B. F. Harvey, U. S. Army, I was induced to employ large doses much more generally, and since May, 1841, I have rarely used less than from ten to twenty grains at a dose, when I wished to secure the full and specific effects of the remedy.

I have invariably employed the sulphate of quinine (super-sulphate when in solution,) procured from the Medical Purveyors of the Army, and, to the best of my knowledge, it has always been of a good quality.

My present experience in the use of the medicine suggests the following mode of practice, which, since its adoption, I have had no occasion to change; on the contrary, its superiority has been uniformly more strongly confirmed.

In *Simple Intermitents* of every variety I am in the habit of administering 15 to 20 grains of quinine, most generally in solution, from six to twelve hours before the chill is expected; always making allowance, when necessary, for its *anticipation*. In *pure ague and fever*, when the derangement of the nervous system has as yet produced no *visceral* or *glandular* disease, I use no '*preparatory medicines*,' believing that thus far the disease lies wholly in the nervous system,—that other symptoms are but consequences of its irregular action,—and, that '*preparatory medicines*,' when not positively indicated, are not only unnecessary, but decidedly injurious.

In about two-thirds of the cases thus treated, I have found it unnecessary to *repeat* the dose in order to effect a cure, and I am unable at present to remember an instance in which a *third* dose has been required. I believe that when the proper moment can be exactly ascertained in which to administer 15 or 20 grains of quinine, one dose will prevent the recurrence of a chill in ninety out of a hundred cases,—and that when the disease is thus cut short on its first attack, it is far less liable to recur at a future period.

In *Remittent Fevers*, I am in the habit of combating the paroxysms according to the indications in each case,—rarely by venesection or emetics, most frequently by mercurial cathartics, acidulated drinks and the *free use of cold water to the surface of the body*. The mo-



ment that the skin becomes moist, without particular regard to the state of the pulse, I give from 20 to 25 grains of quinine, according to the severity of the case, the constitution of the patient, and the general type of disease at the time,—and repeat it in from four to eight hours. This treatment will in most cases prevent a return of the paroxysm. The most effectual remedies for *gastric irritability* I have found to be a strong infusion of capsicum, and *ice*, held in the mouth, or swallowed in bulk. It has been necessary, however, to administer the quinine whilst ten or twelve cups were drawing on the abdomen, in order to prevent its rejection by the stomach, and, in other cases, to secure its action by the application of 60 or 80 grains to a blistered surface on the epigastrium. If the doses mentioned above can be retained, and absorbed by the stomach, the fever cannot continue.

In *Malignant Intermittents*,—the “*Fièvres Intermittentes Pernicieuses*,” of Alibert,—the prompt and decided use of the remedy in the same doses, is successful with equal certainty. In these cases, however, it is necessary to keep up its action for a somewhat longer period than in simple remittents.

In what is called “Congestive Fever,” which most frequently occurs as a *Malignant Intermittent of one paroxysm*, I have no precise limit to the use of the remedy. Forty grains, if retained and digested by the stomach, will, I believe, secure its full effect for a longer or shorter period; and generally in ten or fifteen hours reaction comes on—if at all. With nerve and decision in the employment of quinine in full doses, in connexion with stimulants (brandy and capsicum,) and external stimulants (of which the best are aq. ammonia fort. and the decoction of cantharides in sp. terebinth.) used with the necessary energy and perseverance—I consider this disease—the most severe of an endemic form that occurs in our Southern country—to be perfectly manageable when taken in time by a physician of judgment. Calomel is valuable as a cathartic, and, in certain cases, to allay gastric irritability;—but glisters, especially those of a stimulating character, and if necessary containing quinine, act more rapidly, and in these cases there is rarely time to secure the specific effects of mercury.

In Yellow Fever I regret to say that I have never seen any decided and permanent good effects from the use of quinine—though it was employed in doses of every size in a number of cases at this post, in the autumn of 1841. The trial of the medicine at that time was not decisive—but the results were far from satisfactory. With regard to the pathology of this disease, I have been induced to believe that its *ultimate cause* induces a peculiar action of the liver, which results in a vitiated secretion from this organ, of the character of an animal poison; this, passing into the blood, produces an *alteration of that fluid*, and, as a consequence, of all the secretions, and thus gives rise to the peculiar condition of the nervous system, which characterizes the disease. When the kidneys cease to act, and the *urea* is no longer eliminated from the blood it acts upon the brain as a narcotic poison, as is proved by its effects where the chemical preparation is taken

into the stomach. Why may not the elements of the bile, chemically altered, produce an analogous effect? If it were not unconnected with the subject, further evidence might be adduced, which would, I think, give some plausibility to this view of the pathology of Yellow Fever; I have introduced it here to explain, if possible, why quinine does not act as energetically in this as in other forms of fever of a similar character: it is, that the primary seat of the disease in Yellow Fever is the *blood*—and not the nervous system, as in miasmatic diseases—derangement of the nervous system being the *consequence*, and not the *cause* of the disease.

In enlargement of the spleen, as a sequela of Intermittent Fevers, I have never yet failed to effect a cure by large doses of quinine—even in cases where other treatment had failed. The following case will show the mode of its administration.

At Fort King, E. F., in December, 1842, a boy of nine years of age, was brought to me with an enormously enlarged spleen, of eighteen months' duration; he had been under treatment without benefit for some time previously, I presume by the ordinary means. His skin was dry and sallow, appetite depraved, bowels irregular, and spirits entirely gone; no pain on pressure over either liver or spleen. At first sight I thought the boy was dropsical, from the unusual size of his belly, but, on examination, fully one half of the abdominal cavity was found occupied by the spleen, which was hard and well defined in its outlines. I prescribed gr. ss. hydrarg. chlor. mitis. three times a day, which was continued for ten days; at the same time a blister was applied over the spleen, and dressed with sixty grains quin. sulph. pulv., and every other morning twenty-five grains of the same were given internally (in pills of five grs. each) at once, for four successive doses; the fifth dose of twenty-five grains was given after an interval of three days, and the sixth dose four days later. This was all the medicine used, and at the end of the month the spleen was reduced to its natural size, and the child was in perfect health—and so continues at the present time. The most striking circumstance in this case was, that at no time during the treatment could I detect any *cerebral* symptoms from the quinine; in fact its only evident effect was the diminution of the spleen. Of its mode of action in cases of this kind I can afford no explanation. I have invariably observed that children bear large doses of quinine even better than adults. About this time I gave an infant six weeks old *five grains*, stopping its ague at once, and without a bad symptom.

I have seen M. Piorry, in the Hospital de la Pitie, at Paris, after marking out the outlines of an enlarged spleen on the skin of the abdomen with lunar caustic, give twenty-five grains of quinine to the patient, and on examination, *two hours afterwards*, assert that he detected a decided diminution in its size. I did not satisfy myself, however, that this was actually the case—perhaps from want of skill in *palpation*.

In *Masked Intermittents*, I am also convinced of the superior utility of large doses of the medicine. Intermittent hemicrania is the most obstinate form of miasmatic disease that I have encountered.



I have used the sulphate of quinine, experimentally, to a limited extent, in other forms of disease besides those enumerated: in chronic hepatitis, epilepsy, amaurosis, and mania—but without any results of interest. I am prepared to believe, however, that all functional diseases of the nervous system are to some extent under the influence of this medicine, and that it will *cure* any disease of an intermittent character.

I have given twenty grains of quinine on two occasions during *frank open fever*, with hot skin and excited pulse—when alarmed at its long continuance, and fearful that it would result in congestion; in both cases it acted apparently as a *nervous and arterial sedative*, being followed by relaxation of the skin and falling of the pulse to the natural standard.

I have never seen bad effects from the use of large doses of the medicine, in any stage of fever, though I am not prepared to use it indiscriminately where there is cerebral excitement.

In smaller doses, under the same circumstances, I have been repeatedly impressed with the idea that it increased the febrile symptoms, and failed in producing a sedative, or equalizing effect.

I believe that a full dose of quinine is from fifteen to twenty-five grains, according to the impressibility of the patient; and that, as is the case with many other medicines, the effect of a smaller, or fractional dose, is very different from that of a full dose; and that, where the full impression of the remedy is required, it is more economical, as well as more philosophical, and far more likely to be immediately successful, to administer ℥j at once, at the proper time, than gr. ij. every two hours, for three or four days, or longer.

In two instances, after administering grs. xx. of quinine, too late, apparently, to prevent the access of a paroxysm of fever, I have witnessed a singular condition of the system, which seemed like a struggle between the remedy and the disease for mastery over the nervous system; there was great oppression of breathing, restlessness, and nervous depression; trembling and chattering of the teeth, unaccompanied by any sensation of coldness, and suppressed and struggling pulse. In both of these cases—the one a healthy lady with one previous chill, the other a soldier after one paroxysm of simple remittent—the remedy apparently gained the victory after the lapse of half an hour, and no fever followed; from which circumstance I infer that the symptoms enumerated did not constitute a chill. A repetition of the dose was not required in either case, and they both convalesced without a bad symptom.

I have seen one case of *partial loss of hearing* which followed the use of *two grain* doses of quinine for a period of two weeks; one case of tinnitus aurium, of eleven months' standing, now under treatment, and apparently incurable, attributed to the same cause; and I have also under treatment a case of amblyopia, of three weeks duration, and quite intractable, which followed the use of *four grain doses* every four hours for a week, for malignant intermittent fever, before my arrival at this post.

I have never yet witnessed any of these results from the use of large doses, and, in fact, with the exception of the temporary aggravation of a chronic dysentery, I have never seen any bad effects from them. In dysenteric cases, I attribute the aggravation of the symptoms more to the sulphuric acid of the solution than to the sulphate of quinine; and accordingly use the medicine, when required in such cases, in the form of pills, combined with sulphate of morphine.

With regard to the *modus operandi* of quinine, I believe that in fractional doses (from gr. ss. to gr. xv.) it acts upon the nervous system as a *direct and peculiar stimulant*, with an ultimate paroxysmal effect. In full doses (gr. xv. and upwards,) its action varies with the condition of the system; in the dynamic stage of miasmatic fevers my impression is that its immediate action is that of a *sedative*; in the adynamic stage of fevers—or in other words, after the resistance of vitality has been overcome by the cause of the disease, either entirely and permanently, as in congestive fever, or temporarily, as in remittents or intermittents—the action of the remedy in large doses, when it produces any effect, is, uniformly and certainly, to restore a healthy tone to the nervous system, and to *stimulate specifically the powers of life* in the most decided manner. Its effects upon the circulation I believe to be altogether *indirect*—one of the consequences of its *equalizing* influence on the human system,—and this rationale explains in some degree its varying action in different states of the system.

It is possible that the sulphate of quinine may exercise an influence over the circulation, directly, by some peculiar action on the *spleen*—admitting that this organ acts the part of a “governor” to the circulation, or a *diastoliculum* by which the distribution of the blood is regulated. This would afford some idea of its mode of action in reducing an enlarged spleen to its natural size.

The action of the sulphate of quinine, and still more of the super-sulphate, seems to be uniformly slightly irritating to the mucous lining of the intestines—more particularly of the colon and rectum. Beyond this I have no evidence of its unfavorable influence, as has been asserted, upon diseases of the bowels. On the contrary it has so happened that since the frequent use of large doses of the medicine, I have encountered fewer and less severe cases of dysentery than formerly.

With regard to the *climate of Florida*, a subject upon which there has been recently much debate, it is my opinion that, by comparison with other sections of our country, it may be considered as ordinarily healthful. Its acute diseases are remarkably uniform in their character, and, as for a large proportion of them, there is fortunately a remedy—one of the most certain in its action that the *materia medica* can afford. Its long continued heat, the greater comparative coolness of the nights, and the constant humidity of the atmosphere, have a tendency to produce miasmatic fever, diseases of the liver and digestive organs, and to dispose the skin to ulcerations. I have observed also among the older residents an unusual tendency to diseases de-



pending upon the deposit of accidental tissues, especially of a malignant character, such as carcinomatous ulcers and tumors, and fungus hæmatodes,—always, however, excepting scrofula. In this city hydrocele is of remarkably common occurrence—a large proportion of the natives, and old inhabitants, to my knowledge being affected with it. Whether this is the result of local causes, or produced solely by the climate, I am not prepared to say.

The relation between local causes of disease, and epidemic and endemic influences, is as mysterious here as elsewhere.

I have never seen a case of disease of the liver or spleen, which could—on the most remote evidence—be attributed to the use of quinine, either in large or small doses.

Of the qualities of the sulphate of quinine as a *pure tonic in small doses* I have received an unfavorable impression, in the debility following diseases of this climate. Used in this manner I believe that it acts only as a direct and peculiar permanent stimulant, and that it has a greater tendency to induce general irritability of the system than other and more simple vegetable tonics, with a decidedly unpleasant effect in many instances upon the mucous membrane of the intestines and the brain.

I have never recognized its action upon the liver.

After stopping an intermittent fever by a full dose of quinine, unless the system requires decided support, I am not in the habit generally of administering tonics; and I have never witnessed more satisfactory cases of prompt and uninterrupted convalescence than while pursuing this plan of practice. In cases which required a supporting treatment, the indigenous tonics of the country—the prunus Virginiana and cornus Florida—have proved to be valuable medicines.

According to my observations the unpleasant effects of quinine, in producing ringing in the ears, &c., &c., are more constant and severe in proportion to the smallness of the dose employed. I have seen many patients excessively annoyed by doses of two grains, frequently repeated, who have afterwards, under similar circumstances, taken twenty grains with comparative impunity. The medicine, in solution, has also a greater tendency to produce these symptoms than in pilular form; still the solution is more immediate and efficient in its action.

I cannot leave this subject without remarking the striking rarity of organic disease as the result of fevers, &c., in this section of the country, in comparison with others, where the same class of diseases prevails.

Dropsies and chronic affections of the liver and spleen are exceedingly rare, taking into consideration the very general prevalence of miasmatic fevers, and acute diseases of the climate,

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I have the honor to remain, &c.,

WM. H. VAN BUREN, M. D.,

Asst. Surgeon, U. S. A.

St. Francis Barracks, St. Augustine, E. F., September 10th, 1842.

N. Y. Journ. of Med.

*Death of a Drunkard, once a Physician.*—A short time since, the Rev. Mr. Robinson, of the Episcopal Seaman's Mission, of this city, found a miserable-looking sailor sitting in the street, reading a Greek poet. He was conveyed to Chelsea Hospital, and here is his last history, from the Christian Witness.

"Thursday, very anxious for poor Deven; fear he will not get well; his case has excited much interest wherever I have mentioned it. Born in Philadelphia, of respectable English parents, he was sent, after a preparatory course of study, to Oxford, England, where he graduated in 1819. Thence he went to London, and attended the Medical College, where he received his diploma. His history from that time is mostly involved in mystery. Some six years since, he entered as surgeon in a Portuguese regiment, at Tenior, in the East Indies, which situation he held about five years, when he left to return to the United States. The vessel in which he was a passenger, was wrecked on the Island of Madagascar, when he lost all his effects. From Madagascar he went to the Isle of France, where he shipped as a common sailor, in a bark which arrived at Salem in the middle of November. Found him in a state of extreme destitution; provided him with necessary clothing, and made arrangements for keeping him near me and under my influence a little while, in the hope of his restoration to that position in society, which he was educated to occupy.

"Saturday. To-day heard of the death of Deven. His history, which he promised to write out for me, must now remain a secret. Possessed of superior natural powers, and an education more thorough than most young men of our country, he might have shed lustre on his profession, had not the demon, intemperance, obtained the mastery over him. A native of the same city, and acquainted, as he stated, with me in my childhood, I have felt the most prayerful solicitude to reclaim him if possible; and cannot but think if we had had a 'home,' where he could have been received and carefully watched over, he might have had a longer space for repentance and reformation."—*Boston Med. and Sur. Jour.*